Textile World Journal

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TO CENTRALIZE PHILADELPHIA WOOL TRADE

PLAN TO CONCENTRATE OFFICES AND WAREHOUSES

Economies to be Effected and Greater Convenience to Buyers—Raising of Sheep on Eastern Seaboard

A special meeting of the Philadelphia Wool & Textile Association was held on Monday, Jan. 31, at the Manufacturers' Club, Phila., for the purpose of considering various propositions whereby the general conditions of the Philadelphia wool market could be materially improved and the industry generally benefitted.

President A. C. Bigelow in opening the meeting dwelt upon the importance of efficient methods in modern business, and the necessity of this policy in the wool trade. The value of co-operation, by which textile manufacturers affiliated with the association would aid in bringing about results that would eventually be of material benefit to themselves was emphasized. He admitted the market needed some stimulus, and he suggested the advisability of improving the general appearance and conditions now existing in the wool district tending to make them more attractive and inviting to buyers. He advocated as a means to this end a movement towards centralization by concentrating the offices and warehouses in a general or central warehouse system. Such a system would also make for economy in handling wool, in a much lower rate of insurance, and many other advantages.

This suggestion met with hearty approval. Discussion of the proposition was general. Charles J. Webb indorsed the idea and stated he had felt all along such a method would be advantageous. He cited his own experience with the Webb Terminal Warehouse, and announced that he was now preparing to break ground for a large addition on account of its growing popularity, not only because of its facilities for handling wools, but also because it offered a low rate of insurance by reason of its fireproof construction. He also stated this centralization of warehouses and offices in one common center would develop the desired standardization of humidity in wool, which was bound to come. He advocated in the strongest terms the establishment of a local conditioning house which would offer means for establishing a standard, and would settle disputes.

Samuel W. Whan voiced his approval of the suggestion and pointed out the marked advantages which would accrue to the trade by adopting such a system. He moved that a committee be appointed to look into the matter and draw up plans for its establishment. This was carried unanimously, and President Bigelow appointed on this committee: Samuel W. Whan, Charles J. Webb, J. D. C. Henderson, Horace Bullock, G. Winthrop Coffin and Reuben Windisch.

PROMOTE WOOL GROWING

Another matter brought before the meeting was the proposition set forth in President Bigelow's address at the recent dinner of the association, suggesting the organization start a campaign for promoting the raising of sheep along the eastern coast on idle farm lands. He again called attention to the decreasing volume of wool raised in this country, and argued this was a condition which affected not only the wool man, but the manufacturer and the ordinary citizen as well. He urged they adopt some plan to arouse public interest in the matter by a campaign of education to show the necessity and importance of immediate action. The elimination of the dog as a devastator of the flocks should be enforced, through the various state legislatures, in order to encourage farmers to raise sheep. He called attention to the recent convention of the Pennsylvania State Agricultural Society where this matter commanded special attention.

This suggestion developed considerable discussion in which the hearty approval of the members was expressed. Mr. Webb compared the conditions in this country with those in England where it was general practice among the landed proprietors to keep sheep, and declared it was a part of the campaign of preparedness to promote the wool growing industry in this country as in the event of war our imports would be absolutely shut off. Ordinarily we import almost as much wool as we grow here. He advocated the custom of Australia where a dog running without his master is considered a public nuisance, and is to be shot at sight, as the protection of the sheep against the ravages of dogs would aid in the development of the flocks. He further added he proposed to place a flock of sheep upon his place at Elkins Park.

W. H. Folwell also approved some action to promote more wool raising in this country. He suggested that it would be possible no doubt to interest the 8,000 golf clubs throughout the country to keep a flock of sheep upon their grounds which would not only be a means of keeping the grass on the greens in good condition, but would also be an attractive and useful feature. If each club would maintain ten sheep that would mean 80,000 fleeces, and this would increase no doubt in time to a considerable factor.

H. J. Kenderdine stated the frequent changes of the tariff no doubt had been a deterring factor in sheep raising, so that it was hard to interest farmers in this industry unless this matter could be established along favorable lines, which was confidently expected in the near future. He said conditions now are an actual reality and not a theory as a result of the war, thus totally setting at naught the arguments of the advocates of non-protection that where a domestic industry could not compete with a foreign industry it should be done away with, and that those industries should be established here

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DELAY COTTON FUMIGATION

Enforcement of Original Ruling Might Have Embarrassed Trade

Manufacturers using Egyptian cotton have been saved from possible serious embarrassment by a ruling of the Federal Horticultural Board of the U. S. Department of Agriculture, promulgated on Wednesday, delaying, until Feb. 16, the date upon which the new rules and regulations governing the importation of cotton lint shall go into effect. This amends the statements regarding the date of effectiveness given in the article on page 35 as Feb. 1, which was in accordance with the bill's original form. It is possible that the delay may prevent a marked temporary advance in prices of spot Egyptian cotton, as it would have been impossible to fumigate immediately more than a fractional part of the large importations to come forward within the next two weeks, and would have seriously embarrassed some manufacturers who are in immediate need of Egyptian cotton. The situation on Peruvian staple is not much different, and any mills having China and East Indian cotton coming forward would have been similarly affected.

The Terminal Wharf & Railroad Warehouse Co. in Boston planned to have one fumigation cylinder in operation on Feb. 1, which was expected to handle 500 bales every twenty-four hours if operated night and day, but it has been found impossible to make ready even this one cylinder. The Vacuum Fumigating Co. do not expect to have their first cylinder in operation until Feb 15, and the first cylinders that they will install will be of an emergency type and take fifty bales at each loading. With a possible maximum fumigating capacity at the start of only 500 bales and of not over 1,000 bales by Feb. 15, it was manifestly impossible to handle the very large importations of Egyptian cotton that are due this week and next, aggregating at the port of Boston over 30,000 bales. In addition there are several other large shipments on the water that will be due about the middle of the month. Most of this cotton was due to arrive much earlier, but there were unavoidable delays due to war conditions.

The directors of the Harmony Mills, cotton goods, Cohoes, N. Y., recommend that stockholders vote at the annual meeting, Feb. 8, to increase the preferred stock of the company from $1,500,000 to $2,250,000. The new issue is designed to reduce the floating debt and allow the payment of cumulative dividends on the preferred, which now amount to $15.75 a share.

Latest Cable News

London, Eng., Feb. 4 (Special Cable to the Journal).—Sales very firm for best wools. Medium class merinos sometimes cheaper. Greasy crossbreds halfpenny, slipes and scoureds penny above the opening. No licenses obtainable for America for anything but merino noils. Bradford quieter; selling prices halfpenny higher. Think moderate exports of tops and yarns to France will be allowed. January Bradford-American exports, £395,045.

Manchester, Eng., Feb. 4 (Special Cable to the Journal).—Coarse and medium cotton yarn prices steadier under higher cotton. Fine yarns firm and demand restricted. Buyers are dubious as to stability of prices on both yarns and cloth; latter irregular with indifferent business outside home trade which is good particularly on the finer fabrics. India and China poor buyers; other overseas dull.

SPINNERS AND AMERICAN COTTON CONSUMPTION

FACTS REGARDING OUTLOOK FOR YEAR'S SECOND HALF

Burden of Supply Not Likely to be as Heavy as Predicted—Proper Course to Pursue

By R. K. MacLea

When the Textile World Journal published the figures on American consumption for this fiscal year based on distribution and advance sales of goods placing the prospective total at 7,216,000 bales, the spinning trade got information of what was going on here some two months prior to the time that in preceding years such facts only began to assert themselves.

We are now approaching the time when spinners here should realize the importance of affairs in international cotton circles. We should fix clearly the possibilities of the future.

With six months of the fiscal year passed on Feb. 1, 1916, we are noting the growing sentiment throughout the country that a big weight of cotton rests heavily on the holders of the staple, that prices are going lower and exports have dwindled to an alarming figure. Speculators are forcing a decline in future cotton prices solely on the idea that the South has plenty of cotton, more than enough to go around, and shortly a new crop of increased proportions is sure to be planted.

A common phrase is heard to the effect that eight million bales are staggering the holders in the South.

It therefore seems advisable carefully to analyze the facts. They are presented in a new way and solely as a guide for spinners to determine the better methods to pursue from now on. Business here is admittedly good and cloth prices are not softening in face of a decline of a cent a pound in cotton futures since Jan. 10. If prices did soften buyers could hardly get any goods anyway as engagements will continue at capacity or all signs fail. These facts are fundamental. If the spinner will digest the following reasoning it may lead him to question the advisability of being without plenty of cotton from now on.

The cotton trade itself will shortly begin to figure or estimate the stock to be carried in the United States at end of July next. Every one knows that stocks of cotton abroad are small while England has made us carry the burden here, thanks to the ill advised operation of the "Cotton Futures Act," or to be more specific the *11th Section* of the *Lever Law*. England has not only made us carry our burden but charged us heavily as well for the forced privilege. This country has been denied by law the right to deal in cotton futures in any foreign market of the world but has extended the right to foreigners to deal here—What a farce it has proven!—What an expense to our economic equilibrium!

The all important thing to realize is just how much cotton is available for export for the remaining six months of the fiscal year. It is not as large as painted.

For the three years' average prior to the war, the amount on hand in the

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Textile World Journal
Textile World Record—Textile Manufacturers Journal

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For Publishers' Announcement See Page 9

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A TENET OF OUR CREED: WE BELIEVE IN THE CONSERVATION OF AND PROTECTION TO DOMESTIC INDUSTRIES.

VOL. LI. February 5, 1916. No. 10

THE POUND STERLING VS. THE DOLLAR

Now that the Lord Derby recruiting plan has seriously reduced the supply of male labor in English textile mills, the "allied" and neutral countries of Europe are just commencing to feel the full brunt of the loss of important sources of textile supplies in Germany, Austria, Belgium and Northern France. As long as there was an ample supply in England of mule spinners and carders in the cotton mills, and of carders and combers in the wool-spinning mills, together with operatives for such other indispensable labor as is customarily performed by men, the mills of Lancashire and Yorkshire were able largely to supply the needs of Continental manufacturers in tops, yarns and goods formerly imported from the devastated textile sections of Europe. Now, and until female labor can be trained in men's occupations in English mills, a new source of supplies must be sought, and the only important source available is in this country.

Within the month there have been numerous inquiries from France, Switzerland, Italy, Spain, and even from England, for wool, merino, worsted and cotton yarns, and, to a lesser degree, for cloths and other textiles. The Swiss and French knit underwear mills, for instance, are suffering for want of 26s to 36s combed, soft twist, cotton yarns that used to come from Germany and that English mills spin in only a small way; their supply of merino and French-spun worsted yarns is almost equally restricted. Now that the production of Lancashire fine-count cotton yarns has been radically cut down by the dearth of mule spinners, the St. Gall and Calais lace manufacturers and the Lyons and Zurich silk mills are also hard hit.

English mills were never prepared to meet certain of the demands mentioned, and a large part of the balance she must now sacrifice to the exigencies of war; but through "orders in council" and trade agreements required of neutrals by the British Board of Trade it seems as though the British government were doing its blundering best to prevent European allies and neutrals from keeping their industries employed. The Textile Alliance agreement renders the exportation of tops and yarns, even to "allied" countries, an unsatisfactory business undertaking, and the embargo on cotton yarns prevents shipments to Switzerland and other European neutrals. Domestic manufacturers who subscribed to the Textile Alliance plan have no cause to complain. Neither have we just cause for complaining about the working of the cotton and cotton-yarn embargo, since our government apparently consents to it by silence.

United States manufacturers and merchants are so thankful to be outside of the war zone that they are quite satisfied to have the administration handle affairs of international law without too much hair-splitting, provided the national honor is not involved. They can well afford to witness industrial suffering unnecessarily forced upon European allies and neutrals by Great Britain as the result of policies initiated primarily for the purpose of preserving and enhancing the latter's commercial and industrial power. But when British merchants attempt to execute in this country orders for European allies and neutrals that they cannot fill themselves, they should be told that we will sell direct, or not at all. Such opportunities are numerous now, and afford ample proof that our British cousins are just as callous in their attempt to extract a monetary return from the war as they claim us to be. It is only the difference between the pound sterling and the dollar. Fortunately, textile manufacturers are so busy in catering to an expanding home trade that they can give little thought to temporary export opportunities.

COTTON YARN EXPORTS

Now that there is a decided falling off in export demand for cotton yarns, the trade can look back in retrospect over their experiences of the last few months and determine much more dispassionately than was possible during the period of insistent demand the value of this trade and the desirability of its continuance. Opinions undoubtedly vary materially as to the benefit of these orders to the spinner and dealer, much depending upon the manner in which the business is conducted. In other words, those who have made a study of the trade and who are willing to meet the demands of the buyer find a good deal of satisfaction in the enlargement of their outlets and in the possibility of continued trading with various foreign countries. On the other hand, there are a good many who feel that the numberless details and the apparent useless insistence upon matters of packing, shipment, etc., interfere very seriously with the desirability of the business.

It must be taken into consideration that export business of any kind, whether in yarns or piece goods, differs from domestic business principally in the fact of greater distance between the buyer and the seller. This involves difficulties in the matter of claims and adjusting the same, as well as in questions of credit and other related problems. Undoubtedly when the shipment of yarns from this country commenced a great deal of fault was found with the methods of packaging and shipment, buyers being most exacting in their demands for the same methods as they had been used to from other countries. These complaints were received in different manner by different individuals. In instances every effort was made to comply with the requirements of the foreign buyer, with the belief that if this trade were catered to it would develop into a very substantial and permanent business. On the other hand, there have been a good many who have felt that export yarn business was only temporary and would last no longer than the war, owing to the inability of American spinners to compete with cheap labor abroad and therefore they have been unwilling to accede to the demands which have been made to put up yarn in certain weights and sizes, tied with certain colored threads, with numberless other details, all of which have added to the expense.

As demand has increased and the sources of supply abroad have lessened the buyer has been less exacting in his requirements and as a consequence the margin of profit has been more satisfactory to the American spinner, who has, for the most part, given his ultimatum that the buyer could take or leave the yarn, as it is usually put up, knowing that the necessities of the occasion would compel him to operate in accordance with the seller's ideas. As to the permanency of this demand the factor of ability or willingness to meet the requirements of the buyer may have a larger influence than the successful meeting of competition on prices. While South America has been the large taker of American yarns, other markets have been in evidence and their future needs are worthy of a certain amount of consideration in determining the possibilities of permanent export business.

Because linters are chiefly used in the manufacture of high explosives, it will not do to pass lightly over the estimate that 1,000,000 bales have been used in such manufacture in this country and 2,000,000 bales in Europe since the war started, for it is well understood in the cotton trade that the demand from manufacturers of high explosives has been in excess of the supply of linters. To make good the deficiency of the latter, a large quantity of cotton waste has been used, and some raw cotton. While it is true that the use of linters does not ordinarily displace an equal amount of raw cotton, it does do so indirectly, and in periods of extraordinary demand for linters like the present, the displacement of spinnable cotton by linters may be very direct. The mattress manufacturers and upholsterers, who ordinarily use linters exclusively, have been forced to purchase picker waste, card strips and other cheap wastes; in turn, the regular users of the latter stock have been obliged to purchase better grades of waste, and the readjustment has been continued clear back to the raw cotton. This subject involves the moot question of what is "spinnable cotton," and, in view of the steadily increasing use of soft wastes for spinning purposes, calls attention to the possible desirability of including in statistics of cotton supply and consumption figures covering the supply and use of spinnable wastes. Were it not for the enormous use of linters, cotton wastes and short raw cotton in the production of high explosives, the accumulation of such raw materials would be an extremely serious problem now that Germany, Austria and Belgium, the principal users of such raw materials, are temporarily out of the market. The demand from manufacturers of high explosives has been a mighty important factor in advancing and stabilizing the price of raw cotton, and, as such demand may be of important volume for a long period, it would seem advisable for government statisticians to add such supply and consumption figures to their cotton statistics.

The renewed efforts of certain individuals and organizations to secure importations of dyestuffs from Germany would seem to indicate that the German government has changed its attitude regarding the exportation of these and certain other manufactured products that are not contraband of war. One of the first intimations of this character was contained in the weekly report of the American Association of Commerce and Trade of Berlin under date of Dec. 25. It stated, in effect, that when America is in a position to export to Germany and neutral European countries without interference, such products as, in the opinion of the United States government, are not contraband of war, the German government will lift the embargo upon the export of dyestuffs, chemicals, etc. This week it is reported that German Ambassador von Bernstorff has agreed to secure the exportation to this country of 15,000 pounds of dyestuffs upon condition that this country does not ask permission of England to import the goods. While it is sincerely to be hoped that some way may be found to secure these much-needed dyestuffs, the inference is almost unavoidable that Germany is simply seeking to place upon Great Britain the responsibility of keeping German dyestuffs out of this country. At all events, it is to be hoped that the matter will be pushed far enough to show exactly where the responsibility rests.

Now that both Democratic and Republican leaders in Congress are committed to the passage of legislation creating some sort of a permanent tariff commission, it is to be hoped that those national organizations, whose energies have been devoted to securing such legislation, will make equal effort to secure the prompt revision of the tariff along lines that will ensure industrial preparedness against the commercial invasion that must follow the close of the European war. As soon as the smoke of the tariff commission battle clears away, it will be found that a majority of those whose eyes have been focused upon this objective really wanted adequate tariff protection more than a tariff commission. At all events, it is safe to assert that they did not want a tariff commission that would indefinitely postpone the upward revision of the tariff to an adequately protective basis. With them we ardently hope that the time may come when the tariff can be permanently lifted out of politics, but the present crying need of the country is not for a tariff commission, but for proper tariff revision.

MARKET MAN'S COLUMN

A GOOD deal of trouble has been experienced by yarn houses over the matter of delivery. One excuse given for delay by certain southern spinners is that the epidemic of grippe has produced a shortage of help, making it impossible to keep up to the maximum of production. A good many are inclined to believe that much more importance can be attached to the fact that spinners are inclined to ship their high-priced orders and are discriminating against old contracts at a lower level. One agent cites the case of an order which should have been completed in November which he is getting a bale at a time. On account of this he has been obliged to pay current prices, trusting that he will be eventually compensated by the receipt of the low yarn.

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A money prize, it is reported, was recently offered by a southern yarn association to the first spinner who obtained 40c. for 40s two-ply warps. This price was secured in one instance simply because the spinner in question was able to make deliveries which the customer required and at the same time better warps were bought at 38c. It is further reported that another prize was offered for the first spinner obtaining 45c. for 40s. According to present indications the award is not likely to be made in the near future. There is a big difference in asking price between various makes of this count. A yarn with a breaking strength of approximately 150 lbs. will command at least 43c. and in instances is held for 45c. There are very few mills in the South that can make this quality, but a 90 lb. yarn will not bring to-day more than 38c.

* * *

A good many stories are told of the expedients adopted by consumers of dyes to secure a sufficient supply for current requirements, but the following incident, which we hesitate to vouch for but which was told in all seriousness, is the best one we have heard. It is reported that a dyer hired a taxi one day and visited a large number of New York stationery stores, buying up all the indelible lead pencils he could find. After removing the wood he dissolved the lead and sold it at a profit of $7,000. This is a little worse than requisitioning the supply of Diamond Dyes from local drug stores—a procedure reported recently in a mill town not far from New York City.

CARMEN.

Dye Company Incorporated

The Stanley Anilin Chemical Works, Inc., have been incorporated under the laws of Delaware with a capital of $1,000,000, for the purpose of manufacturing dyestuffs. The company has a plant located at Lockhaven, Pa. Operations are expected to be started shortly. Particular attention will be given to the manufacture of direct black, but other colors will be produced in time. The output is estimated at 5,000 pounds per day, of which 80 per cent. will be black. Dr. I. V. Stanley Stanislaus is president, Leo MacFarland, vice-president; Angus W. Mishaw, treasurer, and M. DeW. Hirst, secretary. The company will remove its present offices, 848 Drexel Building, to larger quarters, 411-415 Drexel Building. Dr. Stanislaus also made the following statement: "There is some confusion among the trade, who, following the Bulletin Special Agent Series No. 111, published by the United States Department of Commerce, are still addressing the Stanley Anilin Chemical Works, Inc., as the American Co-operative Dye & Chemical Co. This is wrong, as the Stanley company has no connection whatever with the American Co-operative Co., nor any co-operative company."

New Bedford Open Price Assn.

Although those interested are reticent on the formation of the New Bedford Open Price Association, it is evident matters have proceeded far enough to warrant the assertion that the organization is assured. The Fine Cotton Goods Exchange is the name of an organization with local headquarters in the Whitehall Building, with A. A. Ainsworth as secretary. It is reported that W. M. Butler of the Butler Mills is president; John Sullivan, agent of the Tabor Mills, vice-president. These officers with James E. Stanton, Jr., president of the City Manufacturing Corp., and treasurer of the Acushnet and Hathaway Manufacturing Cos. and A. G. Pierce of the Pierce Manufacturing Corp., and the Wamsutta Mills, are said to form the executive committee.

Rotch Mills Incorporate

The Rotch Mills of New Bedford has been incorporated under Massachusetts laws with an authorized capital of $450,000 common stock. The company owns the cotton spinning mill in New Bedford recently sold by the New England Cotton Yarn Co. to interests identified with the Passaic (N. J.) Cotton Mills Co. Bonds were given in part payment for the property, as noted in a recent issue, and 3,500 shares of the common stock are also said to have been transferred to the New England Cotton Yarn Co., the other 1,000 shares being issued for cash. The officers are president, J. D. Armitage; treasurer, Robert M. Donaldson; secretary, William F. Warncke; chairman of the board, Myron C. Taylor. Directors comprise the above and R. P. M. Eagles.

Silk Dinner on Feb. 5

The annual dinner of the Silk Association of America on Saturday, Feb. 5, at the Hotel Astor, and already 700 invitations have been accepted. The list of speakers includes Charles Cheney, president of the association; Governor Whitman, of New York, and Governor Fielder, of New Jersey; Congressman Patrick H. Kelley, of Michigan; Prof. John H. Finley, Commissioner of Education, New York, and Thomas Mott Osborne. There will be many honorary guests, including Congressman Kahn, of California; Consul General of Japan at New York, Takashi Nakamura; Albert N. Patterson, president of the Textile Alliance; Robert T. Francis, president American Association of Woolen and Worsted Manufacturers, and John P. Wood, president National Association of Wool Manufacturers.

MILL MAN'S COLUMN

The demand for indigo grinders and logwood chipping machines is one of the peculiar developments of the present dye shortage. It has been many years since woolen mills found it profitable to mix their own dyewood extracts, and it has been so long since they and the cotton mills threw out their indigo grinders that most of the latter had disappeared in the scrap heap. Of course, all mills using natural indigo have use for grinders, but there would be no cause for manufacturers to make dyewood extracts if it were not for the fact that the regular makers are sold to capacity for a long period.

* * *

Many of the expedients that are being forced upon textile manufacturers by the present dyestuff scarcity will prove of little value when normal conditions are resumed, but the present generation of dyers are getting a liberal education in the use of natural dyes, and many of the lessons will never be abandoned. The small aniline and dyewood extract plants that some mills are installing will undoubtedly be abandoned when supplies and prices again become normal, and it is hardly likely that a larger proportion of natural indigo will be used in the future than was the case when synthetic was available around 14 to 16c. a pound. Probably the most valuable lessons that are being learned by dyers and manufacturers, as a result of the scarcity and high price of colors and chemicals, concern the possible conservation of such materials. Dye baths are pretty thoroughly exhausted in these days before they are drawn off, and it is only rarely that one hears of an accumulation of odds and ends of dyed yarns and cloths. Efficiency in dyeing is being taught in a manner that will never be forgotten by the present generation.

* * *

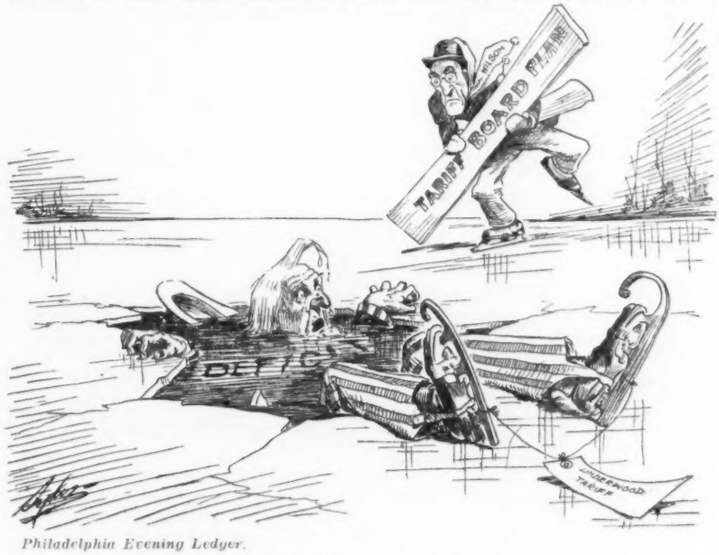
A western hosiery manufacturer is reported to have accumulated a stock of over 200,000 dozen grey goods for which he has no prospect of securing dyes, and a large New England mill is said to be in a similar position. White hosiery is destined to become more popular than ever before simply because it is being forced upon the trade by manufacturers who are unable to dye their goods. The coming summer is going to be a great white season, and it it not impossible that manufacturers who are now bemoaning the lack of dyes may later wish that they had provided a larger stock of white goods.

* * *

It is not strange that those intimately acquainted with the wool and wool manufacturing trades should find it difficult to realize the present enormous productive capacity of the domestic industry, for the latter has never been fully employed since the big expansion in mills and equipment in 1909. Production since then has seldom been more than 75 per cent of the maximum, and for the greater part of the time it has not averaged over 50 per cent. The mills in Lawrence are a striking example of the general situation: At no time since the big Wood and Ayer mills of the American Woolen Co. were built have all of the company's mills in that city been fully employed; to-day every card, comb, spindle and loom are humming at full capacity. Until now the newest worsted mill of the Arlington plant had never been run at full capacity, and it is understood that this plant, and the Monomac mill at South Lawrence, are sold to capacity for the balance of the year. The Kunhardt, U. S. Worsted, Pacific and other worsted mills in Lawrence are almost equally well covered with orders. We used to figure that the maximum wool consuming power of the country's woolen and worsted mills, including carpet mills, was about 600,000,000 pounds annually, but there is strong reason for believing that these figures are not in excess of the present annual consuming rate of the woolen and worsted mills alone, and that to cover the needs of the carpet mills while running at maximum capacity we will need fully 750,000,000 pounds of wool.

MFR.

"IF YOU CAN GET ME OUT AS EASY AS YOU GOT ME IN, HUSTLE IT ALONG!"



Philadelphia Evening Ledger.

Franklin Process Officers

Several important changes have taken place in the executive staff of the Franklin Process Co., Providence, R. I., following the purchase by E. S. Graves of a large majority of this company's stock. Mr. Graves has held a controlling interest in the company for some time and has been vice-president and general manager as well as chief chemist and continues in this capacity. The late Frank P. Sheldon of Providence was the company's president and has been succeeded by John P. Farnsworth of the Providence Dyeing, Bleaching & Calendering Co. H. Earle Kimball has resigned as treasurer, and J. B. Barrett as assistant treasurer and secretary, both of these gentlemen having sold their stock to Mr. Graves. Edwin T. Harrall, who was associated with the Cassella Color Co., for about twenty-five years has been elected secretary and treasurer. The company was fortunate in being remarkably well covered with dyestuffs when the war started.

Bay State Cotton Changes

Philip C. Ware, who for about eight years has been superintendent of the Warner division of the Bay State Cotton Corporation at Newburyport, Mass., has resigned that position and is now identified wth the sales department of the Boston Yarn Co., which is selling agent for the Bay State. George O. Dexter, who is agent of the LeRoy, N. Y., division of the company has been appointed agent of the Warner division in addition to his duties at LeRoy, and will make his headquarters at Newburyport. Manning Emery, Jr., relinquishes his duties as agent of the Warner division to devote all of his time to the interests of the American Tire Fabric Co., of which he is treasurer, and which was recently incorporated under Massachusetts laws to succeed the American Textilose Co.

Edwin Farnham Greene, treasurer of the Pacific Mills, nas been elected president of the board of trustees of Wellesley College.

OBITUARY

Martin Cramp Hall

Martin Cramp Hall, president of the Hall Hosiery Co., Bethlehem, Pa., died Sunday, Jan. 30, at Atlantic City of cerebral hemorrhage, aged 45. Mr. Hall was born in Philadelphia and his early business connection was with the Cramp Shipbuilding Co. He subsequently entered the yarn brokerage business in Philadelphia, eventually becoming associated with George W. Chapin & Co., Church Street. He resigned his position with this concern three years ago to organize the manufacturing company bearing his name. He leaves a widow, one daughter and one son. He was a brother-in-law of Frank Chipman, of Charles Chipman's Sons, Easton, Pa.

John Bridge

John Bridge, senior member of the firm conducted by him and his two sons, Arthur and John Francis Bridge, at Ninth and Pennell Streets, Chester, Pa., where they do a business of roll covering and manufacture of belting and worsted aprons, died recently at his home in Philadelphia. Mr. Bridge, who at the time of his death was 72 years old, was born in Oldham, England, where he was engaged in the same line of business, his family for more than a hundred years being also in the same line. The business in the future will be conducted by his two sons.

Mark Hough

Mark Hough, proprietor of the Enterprise Dye Works, Woonsocket, R. I., died at the Park Hill Hospital, Providence, R. I., Jan 26. The immediate cause of his death was pneumonia. He was 66 years of age and is survived by a widow and five children. Mr. Hough was well known in Woonsocket, R. I., at the time of his death being secretary and director of the Rathbun Knitting Co., and also a director of the Citizens National Bank.

Charles Noble McLean

Charles Noble McLean, for many years treasurer and agent of the American Mills Co., Rockville, Conn., manufacturer of woolens and worsteds, died recently at his home in Rockville. He had suffered for a number of years from rheumatism. Mr. McLean was the last survivor of the group of manufacturers who were responsible for the development of Rockville.

Washington I. Shore

Washington I. Shore, vice-president of the firm of Wolfenden, Shore & Co., Cardington, Pa., manufacturers of cassimeres and kerseys, died Tuesday, Feb. 1 after a brief illness. Mr. Shore was 48 years of age, and spent most of his life in the textile business having succeeded his father, Jesse Shore, as a member of the above firm.

W. H. Rutledge

W. H. Rutledge, secretary and treasurer of the Franklin Mills, Pittston, Pa., manufacturing tapes and braids, died suddenly Monday, Jan. 24.

Home Market Club Dinner

The 21st reception and dinner of the Home Market Club will be given at the Copley Plaza Hotel, Friday evening, Feb. 25. The Club has been fortunate in securing as speakers Henry D. Estabrook, Esq., of New York, one of the foremost orators of the country, whose subject will be, "Tariff, the Paramount Issue;" and Hon. David Jayne Hill, former Ambassador to Germany, on industrial preparedness.

LOGWOOD CONTRACTS TAKEN

Guaranteed Extract Offered for Monthly Delivery to End of Year

The condition of the textile mills as regards dyestuff supplies has received endless notoriety through the daily press, more than the situation justified. There have been many rumors as to forthcoming domestic supplies which are hardly justified by the facts. It is a fact that a large number of the textile mills have been driven to the use of the natural dyestuffs and the extent of this movement has been limited only by the lack of mechanical arrangements for handling colors obtained from dyewoods which require a succession of runs and the proper handling of mordants.

Logwood in particular has been in exceedingly active demand, and all the logwood extract making plants in the country are now working night and day to the full limit of their capacities. The result of this has been a shortage in the supply to keep pace with this demand and a great increase in price.

Marden, Orth & Hastings Co., of New York and Boston, are now making a high grade of logwood extract, guaranteed pure 51° Tw., at their own plant. They have purchased adequately of the raw material, and are able to offer monthly contracts until the end of the year, with assurance that deliveries will be made. It is understood they have already booked a considerable number of contracts on this basis, and are prepared to go further in this direction. As this extract is being made under their own control, they guarantee its absolute purity and that it will fulfill specifications. Fustic, sumac, quercitron, and cutch, they are in a position not only to supply, but to give proper information as to the best way of handling them on cotton, wool and worsted and silk fabric.

With the new mordants which have been brought out recently, it is possible to obtain a range of shades from logwood, fustic and other extracts, especially on cotton, which do not contrast unfavorably with those obtained from the aniline colors, and which are absolutely fast to all reasonable conditions and tests.

It is reported that in addition to the above, Marden, Orth & Hastings Co. will have to offer a methylene blue of a concentrated type, free from violet, which is also being made in this country. It is the intention of the company to amplify these lines of domestic-made dyestuff supplies. They have already gone to a considerable extent in this direction and announce they will shortly have some very interesting propositions for domestic textile manufacturers.

Soft Yarn Spinners' Meet

RALEIGH, N. C., Feb. 2 (*Special*)—The Southern Soft Yarn Association held a meeting at Charlotte last Friday, which was known as a "legislative session." An interchange of views and comparison of experiences on prices, and a very interesting discussion of the Keating child labor measure, now pending in Congress, constituted most of the business transacted. The Keating bill, which strikes at what the Carolina mill men declare to be the rights of the state in regulating such matters, is very unpopular with the manufacturers, and it is simple truth to add that many operatives oppose its principle and general provisions. The passage of the bill appears to be a foregone conclusion

Kent Sale Postponed

The sale of the Thos. Kent Manufacturing Co., Clifton Heights, Pa., which has been announced for Thursday, Feb. 2, was postponed.

Questions and Answers

Under this head we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to the TEXTILE WORLD JOURNAL. Questions should be stated as briefly and concisely as possible. Inquiries pertaining to textile processes, machinery, improvements, methods of management, the markets, etc., are especially invited, as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith.

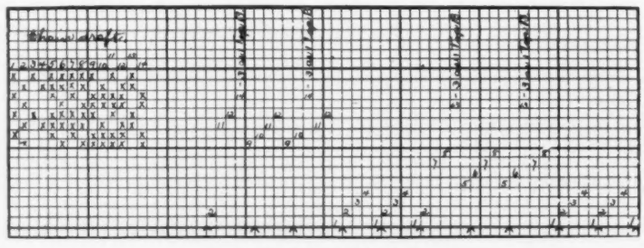
If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.—EDITOR.

WEAVING BEDFORD CORDS

Technical Editor:

I have read with interest the reply to the question regarding Bedford cord in the Dec. 11 issue of the JOURNAL, and would like to offer further suggestions. The cloth is a Bedford cord effect, in which both the embossed stripe and the depressed stripe are cord effects, the latter weaving face down. This kind of layout I have used with success for many years, and I believe the accompanying draft will solve "Weaver's" difficulties. This would require a 60-sley reed to give 120-face sley, 27.9 dents per inch.

A Bedford cord draft on paper seems a very simple affair, but the same weave in the loom is a different proposition. The average Bedford cord is heavy sleyed, and care must be taken to give such weaves a good spread in the harness. Some say 20 heddles per inch is the limit, but I have found by experience, while this might apply to some cloths such as twills or crepe weaves, it does not apply with equal force on Bedford cords for several reasons: First, on account of the heavy sley; second, the depression ends must be in the same dent as wale or cord, or, if a wide wale, in the same dent as part of the wale, and last, but very important, the pick must be considered.



DRAFT FOR BEDFORD CORD

On all heavy sley goods no matter how well the yarn is sized, part of the sizing will be rubbed off by the friction, hence it is very important that a good spread should be given in the harness so as to eliminate much of this friction. The depression or plain weaving ends working alternately are rubbing against the ends which run 3 up and 1 down, hence another reason why the greatest spread should be given in harness. The pick is a very important matter, the greater the pick the longer the threads are undergoing the friction. Where the pick gets around 112 and above, a better grade of cotton must be used for warp.

It is a good practice to use 4 harnesses for each wale or cord, and if the wales are very narrow, say about 16 to 20 per inch, use 4 harnesses for the plain or depression ends. The cloth would require 14 harnesses, as 2 harnesses are required for wadding ends. This means better weaving, which is the real science of laying out work for the looms.

Coming back to the size question. Just as soon as the surface size is rubbed off, the fibers of the thread are disturbed and, if working too close together, throw off lint which knits the threads together. To repeat, if the capacity of the dobby permits, do not be sparing of the harness. When the face sley runs about 150 to 160 increase the number of harnesses to each wale, and if wales are very narrow use 6 harnesses for depression ends. Depression ends must always be drawn each side of wale, and in same dent as wale or part of wale.

The proper setting of a loom is a very important factor in running Bedford cords. The shed must be timed to open and close early, have harnesses come together when loom crank is on bottom centers, giving plenty of time to open the shed before the shuttle is thrown across. Another good reason why the loom should be set in this position is to prevent kinking of the filling. The shed closes on the pick before the shuttle has reached the limit of its throw, hence the filling is tight when the yarn closes on it. This is a good remedy for filling kinks.

There are Bedford cords with twill wales, also sateen wales, also fast and loose back cords. The latter, while not looking as neat as the fast black, is preferred on account of the greater embossed effect produced, this being one of the chief characteristics of all Bedford cords. LANESHAW.

BASINS FOR REFUSE WATER IN A BLEACHERY

Technical Editor:

How large and how must clearing basins be constructed to take care of the refuse water of a cotton bleachery handling 10,000 lbs. per week (goods weighing 7 yards to pound) so as to comply with Board of Health Regulations of State of New Jersey? If possible, give us names of writers who are authorities on clearing basins.

Manufacturer (2598).

This question was submitted to a consulting expert for water purification, who replied as follows:

Basins for removing the subsidable solids from cotton bleachery waste should have a capacity of not over 28,000 gallons for 10,000 pounds of goods weekly. These basins should be constructed so as to secure the best possible displacement and the lowest practicable rate of flow. They should be designed so as to be readily cleaned, on the self-cleaning principle if practicable. The amount of waste to be treated varies greatly with the methods of manufacturing. Each plant must be designed to suit the conditions peculiar to the particular works.

A good discussion on the principles of subsidence is contained in an article by Allan Hazen, published in the transactions of the American Society of Civil Engineers. Vol. III. of Metcalf & Eddy's "American Sewerage Practice" is the most recent treatise on the general subject of sewage and waste disposal.

We also referred this question to the Norwood Engineering Co., Florence, Mass., who reply as follows:

We presume that the refuse that

(*Continued on page* 59.)

New Machinery and Processes

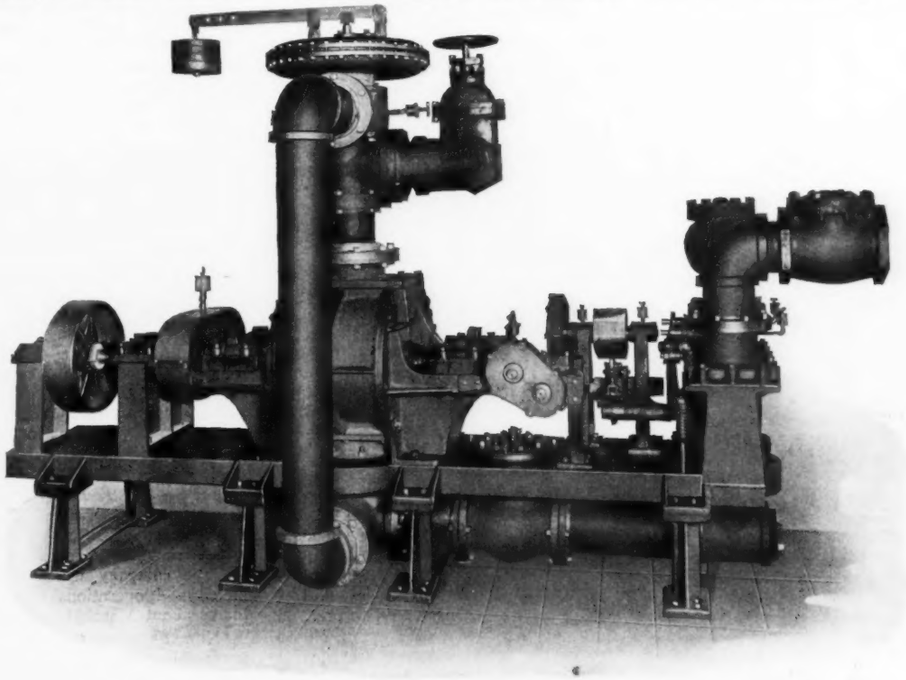
This department is designed to present a brief mention of new machinery, devices and processes being brought out in this country and abroad, that are of interest to the textile manufacturers. It is not a list of patents but of improvements on the market, the idea being to present to our readers a systematic weekly record of new machinery, etc., of interest to textile mill men.

Whenever possible we endeavor to make a personal investigation of the new machinery and processes described in this department. In the absence of such personal investigation we must necessarily rely upon information obtained from those who control the machines and processes.

We invite machine builders and others to send us such information for this department.—EDITOR.

AUTOMATIC GAS SYSTEM

The advantages in the use of gas for fuel purposes in textile processes are generally recognized. Many mills do not recognize, however, that a large part of the gas consumed is often wasted, owing to the practice of effecting the mixing of air with gas at the burner. In large measure this is due to the inability of machine tenders to keep air and gas valves adjusted to produce the flame most economical in gas consumption and to give the best results in the process. Nor can the operator adjust the fires at several burners so that they will all be the same. The eye is not sufficiently accurate to determine whether the flame on any particular burner is wasteful.



SLIDE VALVE AIR AND GAS MIXING MACHINE OF CAPACITY TO UTILIZE 7,500 FEET OF ARTIFICIAL GAS PER HOUR; THE GAS RECEIVER AND PARTS LOCATED OUTSIDE OF BUILDING ARE NOT SHOWN

A system for mixing the air and gas at one point, in definite ratio, which relieves the machine tender from this responsibility, has been developed by the C. M. Kemp Manufacturing Co., Baltimore, Md. The illustration shows the latest type of automatic air and gas mixing apparatus. The mixture under the most suitable pressure is delivered through a single pipe into specially constructed burners. The operator has but one valve to manipulate and opens it to the extent necessary to give sufficient heat for the work. The pressure and quality are constant. Actual savings in gas consumption in singeing of from 25 per cent. to 75 per cent. have been made and the absolute temperature control insures more uniform results and increased production. Similar results have been obtained in calendering, tentering and drying.

OPERATION OF SYSTEM

Air and city gas, either manufactured or natural, are automatically mixed in the proper ratio and in amounts for the work to be done and compressed to pressures of from one to three pounds. The apparatus starts operating when the power is turned on and continues operating with no attention until the power is turned off. The ratio of air and gas can be instantly changed at will without interruption to the service.

The same rate of speed is maintained whether few burners are in operation or whether gas is consumed to its capacity, the machine automatically responding to changes in the demand and constantly maintaining the same quality and pressure of mixture. If the apparatus were located in a locked room so that an attendant could visit it only once every few days to lubricate, and the service were required night and day, with consumption varying from light to heavy, the pressure and quality of the mixture would not vary.

No air is mixed at the burner, all the mixing being done in the machine. The intensity of the heat is adjusted by one valve which controls the flow of gas to the burner. Combustion is rapid and the heating of contiguous surfaces is avoided.

SPECIAL BURNERS

Burners commonly found on singeing machines are not suited to burn the mixture of air and gas most efficient for burning the nap from cloth. The most efficient mixture for this work will not stay ignited in a slotted burner unless turned so low as to be almost useless. With some installations of cloth singeing machines the gas and air mixture is so rich as to require considerable outside or atmospheric air to support combustion. As a result the flame chars the nap and as oxygen in the surrounding air is required to support combustion of the carbon in the gas, there is little oxygen available for consumption of the charred nap.

A patented burner is used with the Kemp system, which is applied to the surface of the cloth with little blast, making a soft flame which rapidly and uniformly consumes the nap without injuring the fabric. When desired it can be pushed through the burner under heavy pressure, impinging against the cloth with considerable force and singeing uniformly and rapidly. It is possible to increase the speed, getting increased output with reduced gas consumption and a more uniformly finished product.

A difficulty in burning gas in calender rolls has been the depositing of soot, which forms an insulation on the inside of the roll, besides tending to soil the goods. The system described burns the gas without soot, heating the calender in a minimum of time. High temperature calenders in which the problem is to maintain the necessary heat can be equipped with a special water jacketed calender burner. The combusion is confined to the inside of the roll, the openings at the ends being closed to retard the escape of heat. In some cases a largely increased output has resulted from the use of this method.

Through a water jacketed burner, copper plates on plate singeing machines are efficiently heated by gas in competition with fuel oil. A burner has been developed for rotary hosiery singeing machines, which gives a soft, mild flame, or by increasing the feed of fuel, the flame is made harsh and penetrating if desired.

INSTALLATION SIMPLE

The installation of this automatic gas system is simple, and can be readily accomplished by an average mechanic. The apparatus can be located in the basement or on any floor of the building, or it can be suspended from the ceiling. No more power is required than for an ordinary fan or blower. It is made in various sizes to fit various plants. When natural gas is to be used, the capacity of the machine is one-third less, due to the fact that for complete combustion of natural gas much more air is required than for the complete combustion of artificial gas.

The C. M. Kemp Manufacturing Co., Baltimore, Md., has published a new catalogue descriptive of the automatic gas system, which will be sent on application to all finishers and others interested.

Textile Patents

BEARING for multiple-spindle metal working machines, Spindle. 1,168,249. Frank L. Cone, Windsor, Vt.

BLEACHING apparatus. 1,167,728. Floyd G. Ten Broeck, New York.

KNITTING machine, Circular. 1,167,637. Frank B. Wildman, Norristown, Pa.

KNITTING machine latch needle. 1,168,039. Harry Swinglehurst, Boston, Mass.

KNITTING machines, Mechanism for Locking together the Needle-Carriers of. 1,168,041. Louis N. D. Williams, Ogontz, Pa.

KNITTING machine stop-motion mechanism. 1,168,194. Ivern W. Grothey, York, Pa.

LOOM, Harnessless. 1,167,401. Albert C. Greiner, Philadelphia, Pa.

PRESSING knitted garments, Machine for. 1,168,069. Max J. Hirsch, Schonau, Germany.

SPINNING device. 1,167,681. Henry Evans, Lewiston, Me.

SPINNING machine. 1,168,237. Amariah Avery, Manchester, N. H.

SPINNING machine builder mechanism. 1,168,231. William P. Shaw, Manchester, N. H.

TEXTILES, Composite roll for. 1,168,188. William F. Gammeter, Cadiz, Ohio.

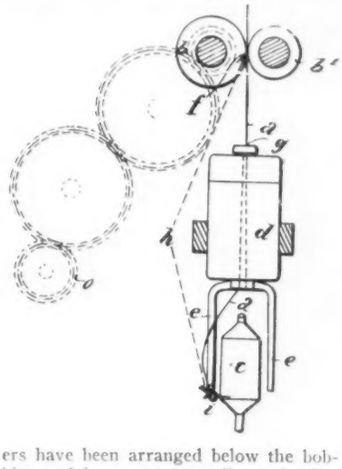
SHIRT. 1,168,191. Henry Gerhardt, Hazleton, Pa.

THREAD tension device. 1,167,636. James Eastwood, Paterson, N. J.

UNION SUIT. 1,168,023. Joseph D. Morley, Utica, N. Y.

ELECTRICALLY DRIVEN FLYERS

A Swiss engineer has invented a spinning or twisting frame with separately and electrically driven flyers. Many attempts have been made to drive ring spindles and flyers separately and electrically, but these efforts have not been accompanied by practical results. The reasons for lack of success are partly due to the fact that the small sensitive motors for driving the spindles and flyers have been arranged below the bobbins and in consequence dirt and other impurities thrown out have affected the motors.



In the present invention the driving motors are arranged above the flyers and between the delivery rolls and the point of the balloon. The casing of the motor is formed as a bearing for the flyer, the spindle of the flyer being one with the shaft of the motor. The separate motors receive current from a generator through a switch. When the frame is to be stopped the switch is disconnected.

The material to be spun or twisted,

(*Continued on page* 43)

New Mill Enterprises, Enlargements and Improvements, Etc.

COTTON

*Hampton, Ga. Henderson Manufacturing Co. has organized with $200,000 capital and its officers are A. J. Henderson, president, and A. M. Henderson, secretary-treasurer. This corporation combines an established cotton yarn mill, an underwear knitting mill and a bleachery which have been operating for some years. Its machinery includes 4,000 spindles, 40 knitting machines, 300 horsepower electric equipment, etc. The new company was mentioned recently as having incorporated.

*Plympton, Mass. Roy L. Keith, for several years superintendent at the plant of the Futurity Manufacturing Co. here, has started in business for himself, operating as the Plympton Mills. Cotton shoe thread is manufactured, operations having started Tuesday, Feb. 1. Water power is used and the product is sold direct. Mr. Keith will buy 10s and 17s Egyptian and 17s Sea Island yarn.

*Clover, S. C. Hawthorn Spinning Mills are now having plans and specifications prepared for their proposed mill and it is probable that the main building will be 500 feet long by 127 feet wide. Building materials are now being gathered at the mill site and plant details will soon be announced. This company was mentioned several weeks ago as chartered with $500,000 capital. It is being organized by M. L. Smith, secretary-treasurer of the Clover Cotton Manufacturing Co., and associates.

Griffin, Ga. Installation of machinery sufficient to double the output of the No. 2 mill of the Kincaid Manufacturing Co. will be made, it is reported. This mill was equipped at last report with 10,000 ring spindles and 350 looms operated by steam power. Last spring the company "filled up" the No. 2 mill by the installation of 8,500 spindles and 160 looms, furnished by the Saco-Lowell Shops.

*Landis, N. C. New equipment to be installed in the plant of the Corriher Mills Co. totals 1,008 spindles instead of 2,000 spindles as recently noted. Hosiery yarns, 24s, are manufactured with a present equipment of 4,000 spindles.

*Long Island, N. C. The Long Island Cotton Mills have recently expended about $32,000 on the following improvements: concrete forebays for 3 water wheels; concrete dam of about 200 feet; a new 100 h.p. water wheel; new cotton gin; one new spinning frame of 204 spindles for 20s; 3 new frames for 8s, and preparatory machinery for the same. The equipment of the plant has been increased to 5,388 spindles operating on 20s two-ply skeins, which with the additional 684 spindles on 8s yarn brings the total spindlage up to 6,072, or an increase in production of about 40 per cent. It has been rumored that the company may build another mill this year but no official pronouncement to this effect has been made.

Philadelphia, Pa. The Rossendale Valley Mill, Inc., which has been operating a small plant at Second and Diamond Streets for the manufacture of plushes, and whose business was recently incorporated with a capital of $100,000, will remove to enlarged quarters in Frankford. A building at Adams Avenue and Wingohocking Street has been secured in which will be installed 27 looms and a department equipped with machinery for finishing. Within the next six months dyeing machinery to be used in conjunction with their finishing is to be installed. The officers of the company are: James Ashworth, president; John Hardwick, vice-president; Michael Rowan, secretary; Sam Hird, treasurer and Walter Fearnley, manager.

WOOL

*Danielson, Conn. Formal organization has been effected by the River Weaving Co., the following officers having been elected: F. E. Cuneen, president; A. M. Cuneen, treasurer; E. L. Darbie, secretary. The organization of this company with a capital stock of $10,000 was recently mentioned. It has leased the mill of the old Danielson Worsted Co. in which will be installed 24 looms, later to be increased to 72, and will manufacture cotton worsteds; operations are expected to be started by March 1. It has been reported that Daniel Ratty of Taunton, Mass., will be superintendent of the plant.

*Philadelphia, Pa. The Lincoln Worsted Co., Thomas Whitehead, proprietor, recently noted in these columns, is operating 30 broad looms at Howard & Lehigh Streets on men's wear worsted goods. The product is sold direct.

*Clinton, Mass. Carding machinery has been installed in the first floor of the recently completed addition to the plant of the Bigelow-Hartford Carpet Co. and is ready for operation. A number of new cards have been installed, it is understood. Spinning machinery is now being set up in the second and third story, and will be ready for operation within three weeks. Dimensions of this building have been given as 119 x 141 feet; it has been reported that a part, if not all, of the equipment operated at Lowell is to be placed in the new mill.

Holyoke, Mass. Authorized capital stock of the Germania Mills has been increased from $150,000 to $300,000 by the addition of 1,500 shares of common stock, par value $100. The mills manufacture overcoatings, cloakings and beavers and French spun worsted yarns.

Uxbridge, Mass. Installation of a logwood dye extractor has been made in the plant of the Uxbridge Worsted Co., worsted and cotton goods. The company will in future buy its own logwood chips in bulk, it is stated.

Philadelphia, Pa. Byrne & Hance Spinning Co., Howard and Berks Streets, has increased its equipment to 5 sets of cards and 4,200 mule spindles, manufacturing woolen and merino yarns up to 30 cut for both weaving and knitting.

*Allendale, R. I. The equipment operated in the plant formerly run by the Stillwater Worsted Co. recently purchased and started up by James Lister, president of the Centredale (R. I.) Worsted Mills is 4,400 worsted spindles. The equipment of 16 combs, 16 cards and 18,508 spindles recently given as installed in this plant is the total machinery of the three mills operated by the Centredale.

*Ashaway, R. I. The production of mixed cotton and worsted goods will be started by the Wolff Worsted Mills in the old Bethel Mill, located just north of the village of Ashaway, about July 1, 60 looms to be operated. This mill has been leased to the Wolff Worsted Mills by the William Tinkham Co. of Burrillville, R. I., which purchased the plant from the Ashaway Woolen Co. Other details regarding the transaction, the erection of an addition 40 x 80 feet to the mill, etc., were recently stated.

Pascoag, R. I. Capital stock of the Fred L. Sayles Co. has been increased from $60,000 to $325,000. Worsteds are manufactured with an equipment at last report of 6 sets of cards, 5 narrow and 107 broad looms.

New Cumberland, Pa. Recent fire originating in the second floor of the Susquehanna Woolen Co. is reported to have caused damage estimated at approximately $3,000.

KNIT

Mobile, Ala. J. F. Carter, Jr., plans to establish a mill for manufacturing woolen sweaters, sweater coats, etc., about $15,000 to be the initial investment, and 50 operatives to be employed.

*Rochester, N. Y. Boutin & Lander, Inc., incorporated last fall with a capital of $50,000, have located their plant in 183 St. Paul Street. The concern is described as importers and manufacturers of hand and machine made knit goods; they are specializing on infants' knit goods. The officers are given as: John Lander, president and treasurer; W. N. Boller, vice-president and F. A. Boutin, secretary. The product is being distributed in New York, Pennsylvania and the New England states.

Utica, N. Y. Operations are to be started at an early date by the Peerless Underwear Co. recently organized with a capital stock of $30,000. The plant will be located in the building of the Utica Dyeing Co. at Columbia and Hamilton Street and will manufacture men's and boy's union suits, employing 40 operatives at the start. Fred C. Lewis, former manager of the Ritesize Underwear Co., will be general manager of the new concern. The directors include John J. Bannigan, William G. Bridgman and Harry Ineson.

Conover, N. C. A. L. Shuford, cashier of Citizens Bank, and associates are planning a $10,000 knitting mill enterprise. They contemplate organizing a company and installing machinery to manufacture men's knit underwear. A suitable building has been secured and negotiations are now in progress with machinery manufacturers.

*Philadelphia, Pa. The Colonial Knitting Mills, Inc., with a capital stock of $100,000, reported some time ago in these columns, are operating their plant at Hancock & Somerset Streets with 40 knitting machines, 5 loopers and 2 seamers. They manufacture mercerized and silk hose and half hose in 240 to 260 needle goods. Charles Christos is president, H. Norris, secretary and treasurer and John Sutphen, superintendent and buyer. The product is sold through J. P. Quinlan, New York.

Philadelphia, Pa. The Tackawanna Hosiery Mill, manufacturing all kinds of cut hosiery, has been started up at 2420 Waterloo Street, with 6 sewing machines and a finishing equipment. Albert Dowe is manager and Frank Lee, superintendent. Their goods are bought in the gray, dyed and finished and sold direct.

Oswego, N. Y. Having outgrown its present quarters, the Hayes Knitting Co. has purchased land at the corner of West Second and Schuyler Streets, where it will erect a building to which the plant will be removed, it is reported. The lot measures 200 x 100 feet and the company is said to be planning the erection of a two-story concrete mill. The site is well located and transportation facilities are excellent. The proposed plant will be operated by steam and electric power as is the present mill.

Utica, N. Y. An addition to the plant of the Avalon Knitwear Co., Inc., at Broad and Mohawk Streets, is to be built and the company is issuing $45,000 worth of new stock for the purpose, according to local report. The new mill, it is stated, will be four stories, 90 x 84 feet and will increase the company's production considerably. Women's and children's ribbed underwear, mesh underwear and union suits, sweaters and coats, are manufactured with a present equipment of 25 spring needle and 225 latch needle knitting machines, 12 ribbers and 425 sewing machines.

SILK

Theresa, N. Y. The silk mill at Theresa was sold on Jan. 29 to James A. Moss, vice-president and general manager of the Cortland (N. Y.) Silk Co., who expects to reopen it at once. The Cortland Silk Co. manufactures broad silk and linings with 400 spindles and 85 looms.

Paterson, N. J. The Ward & Lewis Silk Co. has been organized and has started manufacturing broad silks with 50 looms in the Bamford Mill on Fifth Street. The company is composed of Sidney Lewis and Charles J. Ward, the latter formerly connected with Samuel J. Aronsohn, Inc.

Paterson, N. J. The Elgin Silk Co., with a capital stock of $5,000, has been incorporated and will locate in the Ashley Mill in Riverside. Henry Rosenberg is named as the agent, and the following are given as stockholders: Harry Joelson, Anthony J. Ross, and Morris Kushner.

*Quakertown, Pa. Officers of the recently incorporated Richland Silk Throwing Co. which will operate 10,000 spindles are: Walter Little, president; R. G. Williams, treasurer; Thomas Potts, secretary and superintendent. About 50 operatives are to be employed in the mill.

*Williamsport, Pa. A charter has been granted to the Keystone Silk Mills with a capital stock of $50,000. This is the new concern which was recently organized to establish a broad silk mill, as noted several weeks ago in these columns. Incorporators include C. W. Simpson, Richard Kreusler and C. H. Drinkwater. Mr. Drinkwater, whose address is 951 Fourth Street, is treasurer, superintendent and buyer of the new company. As previously stated, a mill is now in process of construction for the company which will be completed and operations started with 50 looms about March 1.

*New Bedford, Mass. Decision has not yet been reached by the Gilt Edge Silk Co. as to the erection of an addition to accommodate between 400 and 500 new looms, which was reported recently.

Paterson, N. J. A. Schottland is making plans for an increase of his plant. At present Mr. Schottland is undecided as to whether to take more space in the Eastwood Mill, where he is located, to build a mill or to buy a plant in Pennsylvania.

Paterson, N. J. The Robins Silk Co., located in the new Rhinehardt Mills, has 20 looms on order which will be added to its present equipment of 50 looms. Later on the company expects to add another 20, making 90 in all.

Paterson, N. J. The erection of an addition to provide approximately 20,000 additional square feet of floor space is understood to be contemplated by E. & Z. Van Raalte, manufacturers of veilings, nettings and chiffons. An equipment of 163 looms is now operated in the plant at Getty and Buffalo Avenues.

*Hornell, N. Y. The addition now in process of construction at the plant of the DeWitt Boag Co., chiffons, veilings and scarfs, will employ about 50 additional operatives. When it is completed the plant will have an equipment of 137 narrow and 50 wide looms.

New Berlin, N. Y. The local branch of the Rossville Silk Mills Co., with main plant at Binghamton, N. Y., is reported as being well employed. Rumors of an addition to the plant are prevalent locally. Broad silks are manufactured with 72 looms.

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*Indicates mention of project in a previous issue. Other news on page 60.

Raw Material, page 86

Cotton Manufactures

Machinery—Processes—Fabrics—Costs—Market Reports

Cotton Yarn, pages 40-43

The Use of Silk in New England Cotton Mills

By Laneshaw

IT is only within the last ten or twelve years that silk for warp or filling has been generally used in New England cotton mills. One or two mills used silk for warp stripes and filling effects as far back as eighteen years ago, but the use of silk became general, particularly in the mills of New Bedford, after 1900. It is now almost as common as cotton. Some beautiful effects are obtained in warp stripes, also in filling flush weaves, fancy Swiss dots, and jacquard patterns. Thousands of automobile scarfs have been made and are still being made with leno and jacquard borders. The construction of these beautiful fabrics is cotton warp and either 22/2s single or 14/16 two-end Canton silk filling.

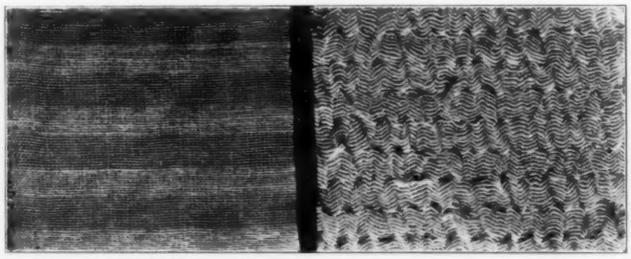


FIG. 1. EMPOSSED CREPE FABRIC BEFORE AND AFTER FINISHING

A great many looms are now running on plain silk filled weaves, construction running from 84 to 96 sley with a 40 to 60 warp, and 68 to 100 picks of Canton silk filling. To those who are not familiar with this cloth it appears when unfinished to be a rough, hard feeling piece of plain cloth, but the same cloth after leaving the hands of the finisher is a revelation. In the process of finishing the silk filling is degummed, that is, the natural size or gum is taken away from the many strands which go to make up a thread of filling, allowing the thread to spread out, giving a soft feel to the cloth and a lustrous surface. After a silk thread is degummed it is very difficult to determine what size of filling has been used. It is also very difficult to match or size the thread in the degummed state.

It is well to have a good firm cotton construction for silk filled goods, for silk filling will slip at the slightest touch if not held firmly by the warp. The constructions used by the mills in and around New Bedford are 84 to 96 sley and from 68 to 100 picks.

CLOTH CALCULATIONS

Silk filling is a hard, firm thread and in weaving holds out the cloth just as a hard twisted cotton thread would do. In figuring for plain silk filled goods or for fancy figures, the weight of the filling is figured from width in reed. The contraction from reed to cloth on 40-inch goods would be at least ¾ inch less than if using ordinary cotton filling of 100s to 150s. This would make a change in the sley. If the cloth holds out ¾ inch wider than figured, the sley will run down at least two threads in a 40-inch cloth, 84 x 72.

The above conditions do not obtain on loose twill or crepe weaves, or particularly on leno or marquesette weaves. On the latter class the cloth will often contract 5 inches on 40-inch goods, and has been known to contract a full ½ inch more after lying on a cloth table for two or more days. The reason for such a big shrinkage on these cloths is that the weave, and the yarns, usually 2-ply, are of such a nature that instead of the filling holding out as in plain work, the warp twists the filling around when the change is made from cross to open shed and from open to cross shed. The warp yarn, being a great deal stronger than the filling, draws the silk in. If the filling has been figured 43 inches in reed for 40-inch goods and it is necessary to spread to 45 inches, it is easy to see where the profits would go. Let the beginner use a reed at least 4 numbers below the ordinary for full marquesette and 2 numbers below for semi-marquesette. For reed widths above or below 40 inches proportionate allowances should be made.

CLASSES OF GOODS

Organzine silk is used for warp, while that used for filling is known as tram silk. Silk stripe soisette, poplins and fancy shirtings, also whole silk warp poplins and imitation crepe de chine are made from warp silk. The majority of stripes are made on a cotton poplin ground; at least 6 ends of silk must be drawn in a 100 sley reed. The silk, equalling 200 to 210 cotton, covers little space in the unfinished state, but when finished spreads out and makes a fair appearance.

It is good practice to draw all silk as doubles, that is, 2 ends in one heddle. This makes far better weaving and is a common practice in most New England mills. In making designs for silk stripes care must be taken to have as much silk on the surface as possible. Imitation welt and sateen stripes make a very neat appearance. In the former the silk is mostly on the surface even when not weaving the figure. Care must be taken to have a good backing from the cotton bottom beam as this will throw up the figure in bold relief. The take-up of silk averages about 25 per cent. This is a big item when figuring cost and must not be overlooked.

In laying out silk stripes the picks must be carefully considered. If the pick is light, as in poplins, a 6-end sateen stripe will answer, but if the picks run about 100 to 108, as in soisettes, the sateen should be at least 8 ends; 10 ends would be better if the capacity of the dobby permits. If a 5 or 6-end sateen stripe were used on a high pick ground, the filling would show too much on the surface, and spoil the appearance of the stripe.

Silk warp poplins are usually heavy sleyed, that is the sley runs from 200 to 300. Some buyers demand these to be drawn one end per heddle, which tends to make bad weaving. If the buyer could be induced to accept the cloth drawn two ends per heddle, increased production and good quality would be the result. The filling runs from 8s single to 4/30 medium twist. The 4-ply gives a beautiful rounded appearance to the filling rib, but it is difficult to handle.

If the filling thread should get fast in the shuttle mouth it will often tear out the yarn for a distance of five or six inches from the selvage. In order to avoid this a knife-like projection is placed over the mouth of the shuttle and the filling runs over this with ordinary tension. But when extra tension is applied, such as would tear a selvage, the filling is cut by the knife. This works very successfully if the knife is kept sharp. The constant passage of filling soon dulls the edge. The only objection to this device is that the knife is always exposed, thereby conflicting with some of the various laws on safety.

EMBOSSED CREPE

A good imitation crepe de chine is made by using a silk warp, about 96 sley drawn 2 ends per dent of reed, with 50 regular and reverse hard twist filling, running 2 picks regular, 2 picks reverse, 60 to 72 picks. Frame spun filling is the best. Mule spun hard twist is inclined to be uneven and leaves flat places in the cloth when finished. A 2 x 1 box loom is necessary.

Some of these cloths are woven from 6 to 12 picks regular and reverse. In order to get the desired effect it is necessary to use a 2-30 hard twist filling, about 36 turns per inch. In making this filling the single yarn that goes into the making of the reverse twist must first be spun reverse then twisted into 2-30s in the same direction. If this is not done the difference between the sizes of yarn as twisted will be very noticeable. A fabric made as above is termed an "embossed crepe," and requires great care in finishing to get the desired effect. The illustration, Fig. 1, shows this fabric before and after finishing. The warp is all silk, 23-25 Italian; the filling is 2-30 regular and reverse twist cotton, about 36 turns per inch.

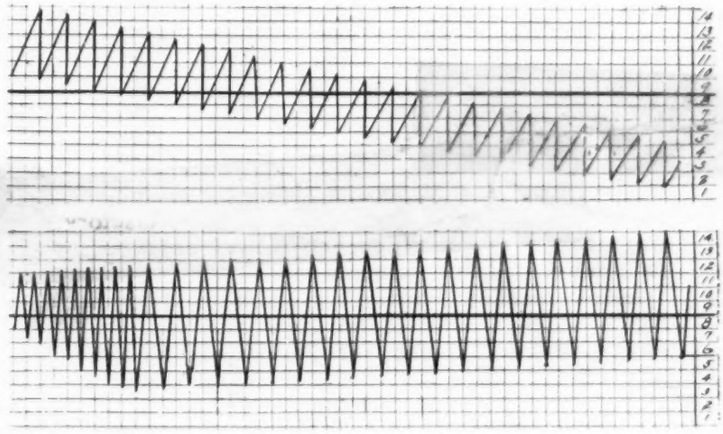
Filling Wind for Warp Yarns*

By George H. Goldsmith

HAVING considered the mechanical aspects of the various influences affecting the respective cycles of the filling and warp winds, there remains to be considered the more or less important practical results attending the use of filling-wound warp bobbins. It should not be overlooked, however, that the superior results obtained by some mills using the filling wind may actually be due to other factors. For instance, they might be due, in part at least, to new equipment, use of lower grade of stock, standardized bobbins, longer traverses, greater ring diameters, etc. Some of these results might be secured with the warp wind, although all of them would be either impractical or impossible with the latter. Some particular item like flexibility, or standardization of spinning and spooling equipment, impossible with the warp wind, might involve the use of filling wind as a mere incident, and not as the vital element in the combination.

LEAST BALLOONING, AND LESS TWIST

To illustrate further, let us consider the element of ballooning. This is a factor frequently mentioned in connection with the subject of filling wind; it being claimed that one of the advantages of using filling-wound bobbins is decreased ballooning. Referring again to the charts illustrating the cycles of traverse influences we can readily see that there is no ground for associating the idea of less ballooning with the filling wind, so far as any difference in traverse conditions go. Yet it is true that the same number of yarn may be spun with the filling wind with considerably less ballooning than with the warp wind, for reasons which have nothing whatever to do with traverse, but wholly with the twist and tension control through the medium of the traveler.



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* This is the third of a series of articles, previous installments of which appeared Dec. 11 and Jan. 1.—Ed.

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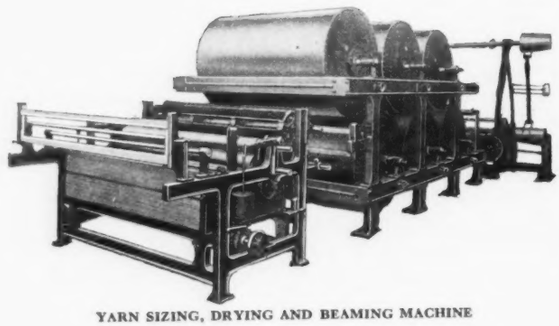

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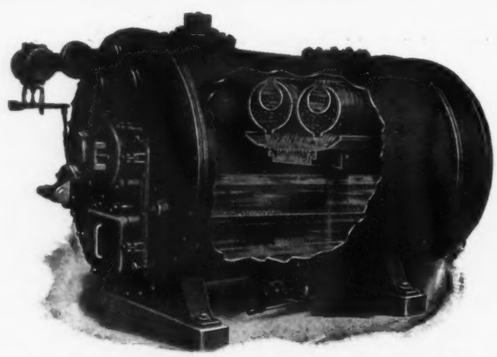

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than can be built with the warp wind and still obtain practical results, owing to superior control of tension in the process of spooling. Now, if it be true that a softer bobbin can be built, it means that less twist may be used for the same number of yarn, provided a type of yarn is desired containing less twist. This is so because it would be impossible to reduce twist to the minimum desired so long as bobbin density had to be maintained for subsequent processes, and since, also, maintaining bobbin density at the spinning frame means using a heavier traveler relative to the twist constant than would be required if the bobbin density could be lowered indefinitely. It follows then that tension is necessarily higher on the warp bobbin than is required for the filling-wound bobbin.

FACTORS DETERMINING BALLOONING

We come now to the crux of the discussion of filling versus warp wind for warp yarns. But before considering the details of traveler influence in the problem, and its consequence in producing the results desired, let us see what are the elements that determine the scope of ballooning while winding to or unwinding from the spinning package. Without going deeply into the technique of the matter it may suffice to say that ballooning of yarn is determined by the following factors:

1. The mass or size of yarn and speed at which it is whirled, and, at the same time, held between two given points.

2. The twist inserted into the strand while it is whirled, or before it is whirled; twist being the co-efficient of elasticity content in the strand relative to the numbers.

3. In ply yarns (with which this discussion is not concerned), the relation of twist to lay of strands of yarns; the latter being stiffer or more pliable according to the amount of twist.

4. Weight of traveler.

5. The diameter at which the traveler traverses its course; in other words, the diameter of the ring.

6. Length of ballooning strand.

From these factors the following practical deductions may be made:

First. The softer the yarn, the less it balloons.

Second. The faster the feed rolls go, the less the yarn will balloon with the same ring and the same weight of traveler, since the faster the feed rolls go the less twist will be inserted in the yarn.

Third. With a given gauge of frame, the greatest diameter of ring may be used with the yarn that is spun with the least twist; which minimum may be accomplished only with the filling-wound cycle.

Fourth. With a given gauge frame, the longest traverse is possible when the minimum of twist is inserted; since the greater the twist in the strand, the greater its stiffness and consequent ability to offset traveler pull by increased ballooning.

POSSIBILITIES OF FILLING WIND

Hence, we find that by the use of filling wind it is possible to build a soft bobbin without unfavorable results in the subsequent process of spooling; to use less twist, because of, and as a result of, less bobbin density required; to get greater production. It is also possible to use a bobbin of greater diameter, since, as shown in my second article, the bobbin does not have to revolve in the process of spooling, and since, as illustrated in the discussion of ballooning, the greatest diameter of ring is possible when the twist is at the minimum with a given gauge of frame. The filling wind also allows the use of a bobbin of greater length with given gauge of frame, since ballooning of the yarn is least when the twist is lowest, and when the softest yarn is being wound; said ballooning being also increased with the distance between the two points at which the whirling strand of yarn is held, up to the point when the ballooning of yarn breaks up into chords.

We have previously shown that the distribution of the high elasticity area of the filling-wound cycle was much more favorable than that of the warp-wind cycle, when the natural, or two-speed filling wind, was used on the cone traverse. We have stated also that this favorable distribution of high elasticity area disappeared to some extent when the one-speed traverse on the cone, or the traverse without a bind, was used. Also, that frequently there is a willingness to abandon the advantage of the high elasticity content of the bound bobbin, and the attendant ability to use a heavier traveler, in favor of the one-speed, or unbound bobbin. This has some advantage in spooling, since it eliminates to some extent the snubbing effect of a quick approach of the unwinding swing of the yarn at the nose of the bobbin.

REASONS IMPELLING USE OF FILLING WIND

Careful perusal of all points of difference in the two cycles of wind clearly shows that the use of the filling wind is due to the following demand:

First. The call for soft spun yarns.

Second. The call for close adjustment of stock requirements to minimum cloth standards.

Third. The demand for flexibility in mill conditions to meet changes in twist and stock.

Fourth. The advantages to be had from standard bobbins, or spinning frame packages, in both spinning and spooling.

Fifth. The demand for reduction of costs in both spinning and spooling.

Sixth. The need of control of tension (both minimum and maximum) for purposes of relieving yarn strains.

It must be understood that the diameter of ring, or length of traverse, cannot be increased without some corresponding compensation in spindle speed, since, with a given diameter of bobbin, speeds are no greater with warp than with filling wind, and vice versa. Increased ring diameters and bobbin lengths mean decreased speeds; except to the extent to which this item may be affected by new and improved equipment. The latter is a factor which is often represented as being of less consequence than it really is in the improved results obtained by changing from warp to filling wind. It should be understood that traveler speeds constitute the real limitations in all cases, and that it is only when a gross gain is not offset by an equal loss that a real advantage is obtained.

INFLUENCE OF THE TRAVELER

We have said but little about the influence of the traveler in the problem under discussion. Its influence is relative, and, in this respect, may be sumbarized as follows:

1. A given weight of traveler, with a given spindle speed, will reduce the ballooning of a given number of yarn to the greatest extent when the twist per inch in that yarn is at its minimum.

2. When a two-speed traverse (that is, a bound wind) is used on the cone in the filling cycle a heavier traveler can be used, even with less twist in the yarn, than can be used under corresponding conditions in the warp cycle. This is due to the favorable distribution of high elasticity area in the traverse cycle of the filling wind. Its practical value lies in the ability to put more yarn on the package than would be possible without the heavier traveler, and in the accompanying ability to avoid high yarn-fault stresses.

3. When a one-speed, or unbound traverse, is used on the cone the ability to use a heavier traveler practically disappears, though there still remains the compensating ability to use a lighter traveler to get the same tension with soft-spun yarns that would be obtained from the use of a heavier traveler with hard spun yarns; and so the density of the bobbin is maintained to great advantage with soft spun yarn and with economy in upkeep of rings. This is due to the fact that there is less ballooning with soft spun than with hard spun yarns.

ECONOMIC FACTORS ALSO RESPONSIBLE

The superior usefulness of the filling wind, as compared with warp wind, is best expressed by the word flexibility. Mills equipped with filling wind for warp yarn have the widest range of adaptability with a minimum of necessary changes. The need of increased flexibility of spinning, spooling and winding equipment is not confined to sales yarn mills, nor to cloth and yarn mills catering for foreign trade. It is being forced upon domestic mills by keener competition both at home and abroad. Many mills having a demand only for high grade goods can still afford to use the warp wind, and buy a higher grade of cotton for a given quality of yarn than would be necessary if the filling wind were used for the warp; but the demand for "goods at a price" is enforcing the utilization of wastes and of heavily sized warps, and greater flexibility of warp spinning and winding equipment is a logical, if not necessary, development.

THE PROBLEM IN EUROPE

Spinners in England and Continental Europe had to meet such conditions long ago; in fact, these conditions antedated the advent of the ring spinning frame and influenced the adoption of the filling wind for warp yarns at the inception of ring spinning. We have been able to secure a certain percentage of export business in competition with these foreign manufacturers because of the really superior quality of our goods, but the demand for such qualities is limited, and, to expand our export trade still farther, we must give buyers the lower grade goods that are demanded. The trade situation in the domestic market is not vastly different, except that the demand for low grade goods is a lesser part of the total consumption. However, in periods of business depression it expands, and at all times there are possibilities of cheapening standard fabrics by legitimate manufacturing methods, one of the most important of which, is the use of the filling wind for warp yarns.

NO FOREIGN INFLUENCE

The increased use of the filling wind is not a direct reflection of foreign influences, but may be accepted as an accompaniment of contemporary economic conditions. This fact, however, has many notable exceptions. Representative mills in this country have for many years used the filling wind in handling their warp yarn and, at the same time, have used the highest grade of stock obtainable for their product. On the other hand, some mills requiring the very highest grade of stock for their product (such, for instance, as tire fabric yarns) have not found the advantage claimed by others in the use of the filling wind. It is a curious fact, however, that some tire fabric mills using nothing but the best staple have found the superior tension control of the filling wind advantageous for making tensile tests of the yarn as spun, spooled or doubled.

While it is true that experiences with filling and warp winds have been governed more or less by individual conditions, giving emphasis now to one method and then to another, it is unquestionably a fact that the advantages of the filling wind for warp yarns are having an important and increasing influence in the selection of new equipment for spinning and winding rooms.

Machine Speeds in Cotton Mills *

By Sidney P. Munroe

IT is a far easier undertaking to record regularly the speeds in the spinning-room and card-room than in the weave-room, on account of there being fewer units to keep track of. The speed of each spinning frame should be taken once a week and reported to the office. The speed should be counted at the front roll. This can readily be done by spotting the neck of the roll at a certain point on each frame and then counting the revolutions by holding a finger against the roll. All the spinning frames in a mill of ordinary size can be timed in this way in a day and a half and generally the overseer's clerk can find time to do this once a week. It is often advisable to have this work done by some person directly connected with the superintendent's office, since, when the speeds are counted by someone under the jurisdiction of the overseer, it sometimes happens that the true variation in speeds that exists does not appear in the report. The speeds that are reported are what the overseer thinks will appear well, rather than what were actually counted.

SPINNING ROOM SPEEDS

In setting standards of speed in the spinning-room, the conditions that exist in the room should be carefully studied before any decision is reached. The spindle speed should first be decided on. Among the factors to be considered are the age and condition of the frame and spindles, the number of yarn to be spun, the kind of yarn, whether warp or filling, hard or soft twist, the size of ring, the diameter of bobbin and the presence or absence of separators. On warp yarns, with conditions favoring, the spindle speed may be as high as 9800 r. p. m. This speed is suitable for yarns in the vicinity of 40s and 50s and it is not wise to exceed it. On yarns finer than 50s or coarser than 40s the spindle speed should be lower. The farther the counts of the yarn are from those mentioned, the greater should be the reduction. In spinning filling yarns a speed of 8000 r. p. m. should not be exceeded. This is suitable on yarns ranging from 25s to 70s. Other counts should be run at a lower speed. A large ring, a bobbin of small diameter and the lack of separators often make imperative the employment of a lower spindle speed than would otherwise be used.

AMOUNT OF TWIST

Having decided upon the correct spindle speed, one must next discover what amount of twist gives the best results. This can be ascertained only by experiment, as the cotton being used, the atmospheric conditions in the room, the conditions under which the yarn is used, and the uses to which the yarn is put have great influence. In the case of warp yarn these experiments should be made with the object of ascertaining what amount of twist will give the strongest yarn, because of the strain to which the warp is subjected during the

* Continued from issue of Jan. 1.

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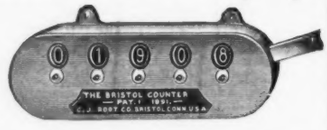

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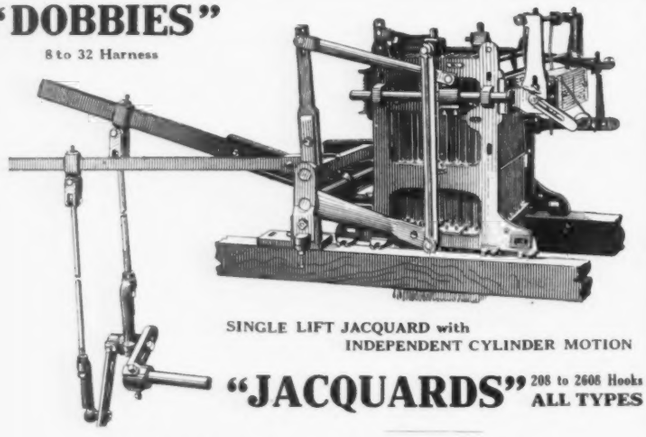

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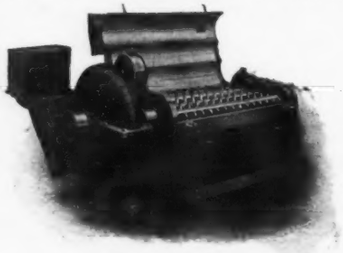

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subsequent processes of warping, slashing and weaving. Do not make the mistake of assuming that, in all cases an increase in twist will produce a stronger yarn. As an instance to the contrary, the writer has had personal experience in the manufacture of 100s warp yarn from 1½-inch Sea Island cotton, and found that a twist constant of 3.50 produced the strongest yarn obtainable. Any increase or decrease in twist resulted in weakening the yarn.

When spinning filling all that is necessary in the way of strength is just enough to keep the ends up on the spinning frame. Filling that is strong enough to stand ring spinning will undoubtedly weave. Everything else that is possible should be done to assist in spinning the filling before an increase in twist is considered. Not only does additional twist reduce production, but it also injures the feel of the goods and often causes seconds due to kinky filling. Sometimes a change in the stock being run or a radical change in weather will necessitate a slight increase in twist, but many times this may be obviated by a change of the traveler or a slight alteration in the roll settings.

CALCULATING FRONT ROLL SPEED

With the spindle speed and twist factor standardized, a simple calculation will show what the front roll speed should be on the counts of yarn to be spun. As an example, assume that the spindle speed is 7900 r. p. m. and that we are to spin 36s, 40s and 50s, filling yarn with a twist constant to 3.60. The calculations for finding the respective front roll speeds on the above numbers would be made as follows:—

(Spindle Speed) $7900 \div (3.60 \times 3.1416 \times 1) = 698$, Constant.

By dividing the constant thus obtained by the square root of each number of yarn to be spun, we obtain the respective front roll speeds:

116, Front roll speed for 36s filling.
110, Front roll speed for 40s filling.
105, Front roll speed for 44s filling.
99, Front roll speed for 50s filling.

In setting standard speeds for the fly frame processes the factors to be taken into consideration are much the same as those affecting the spinning speeds. The spindle speeds have been pretty well standardized at 650 r. p. m. for slubbers, 950 for first intermediates, 1250 for second intermediates and 1600 for jack frames. These are varied somewhat according to the age and make of the frame and the gauge and traverse for which it is built.

The amount of twist to be applied to the roving is governed almost wholly by the length and strength of the staple and the atmospheric conditions. All that is required is to give the roving sufficient strength to prevent its breaking back in the creel at the succeeding process. In most cases this will be accomplished if the roving is strong enough to run well on the frame on which it is being made. The existence of any more twist than is necessary to attain these results is detrimental, since it makes the next drawing process more difficult. In general, the twist multiplier used should be in the neighborhood of 1.0 for slubber roving, 1.1 for first intermediate roving, 1.2 for second intermediate roving, and 1.3 for jack roving, but as stated above this is determined by the character of the stock and the condition of the atmosphere. The standard front roll speed is found on fly frames, once the spindle speeds and twist multipliers have been standardized, by a similar calculation to that described for the spinning frames.

When once the speeds have been made standard in the various departments, and a condition of comparative uniformity has been temporarily attained, such methods of procedure should be inaugurated as will insure the permanence of the improvement. The speed of each spinning frame and of each fly-frame should be reported to the office each week. This may also be done with regard to the preliminary machinery of the card room, but it is not essential that these speeds be reported as frequently if the slubbers are being supplied with a sufficiency of sliver.

IMPORTANCE OF PROPER SPEEDS

We have previously outlined ways in which the weave-room speeds may be reported. In a good-sized mill it would probably be worth while to keep one man in the weave room whose sole duty would be to watch the loom speeds and correct whatever variation may develop. He should report each week to the office the current conditions and the progress or corrections made. There should be a man in the office whose work consists of keeping continuous records of all speeds reported from the various departments. He averages and summarizes these reports and turns over the information thus gleaned to the superintendent in as concise a form as possible. This man should be well acquainted with the various machines and familiar with their possibilities and limitations. With the superintendent's cooperation, he will have manifold opportunities to prove of value to the concern. In a small mill he could readily find time to take all the spinning and roving speeds personally each week, but in a plant of average size this could probably be more conveniently done by some person directly connected with the department. In any event, the speedman in the office should occasionally and at unexpected times, take the speeds himself to see how nearly they agree with those reported.

We will assume that a mill weaving 38½-inch standard print cloth produces 4,000,000 pounds of cloth per year, and that by speed increases and standardization alone it is deemed possible to increase production ten per cent. This figure is not necessarily excessive as in the mill referred to in the first part of this article, an increase of over thirty per cent. resulted from the improvement in the carding and spinning speeds. Let us say that the cost per pound for piece work in the mill under consideration is 3.25c., and for day labor, supplies, fuel, repairs, overhead, salaries, depreciation and all other charges, exclusive of the cost of raw material, is 8c. The total cost of manufacturing thus being 11.25 per pound.

The present cost of operating the plant is therefore:

4,000,000 × $0.1125 = $450,000 per year.
4,000,000 × $0.10 = 400,000 pounds, expected increase in production.

This will increase the piece-work cost proportionately:

4,000,000 × $0.0325 = $13,000, added piece-work cost.
450,000 + $13,000 = $463,000, new cost of operating plant.
463,000 ÷ 4,400,000 = 10.52c. new cost per pound.
11.25 — 10.52 = 73c., saving per pound.
4,400,000 × $0.73 = $32,120 annual saving in cost to manufacturer.

Assuming that the goods are sold at a profit of .08c. per pound;

400,000 × 8c. = $3,200, increased profit due to added production.
$32,120 + $3,200 = $35,320, total saving resulting from speed increases and standardization.

The above conditions are exceptional in some respects, but will suffice as an illustration of the saving which may accrue as the result of a thorough investigation along these lines.

Tests for Tire Fabrics

BY special request of the Chairman of Committee D-13, and for the general information of the trade, we republish in full from the authorized text the tentative tests for automobile tire fabrics, as amended and unanimously adopted at the Atlantic City meeting of the committee June 25, 1915, and approved for publication in the 1915 Year Book by the American Society for Testing Materials. Criticisms of these Tentative Tests are solicited and should be directed to W. D. Hartshorne, Chairman of Committee D-13 on Standard Tests and Specifications for Textile Materials, Methuen, Mass.

TENSILE STRENGTH

1. For the determination of tensile strength a 10-in. swatch, the width of the cloth, shall be taken from either end of the roll, and the test specimens cut from it and tested as specified later. If by the first tests the fabric fails to meet the specifications a second swatch shall be taken as follows:

If the roll is a complete wrap, the second swatch shall be cut from the center of the roll. If the roll is a part warp the second swatch shall be taken not less than 1½ yd. from the other end.

PREPARATION OF SPECIMENS

2. The test specimens shall be taken as follows: Starting at a line[1] in the center, warpwise, lay off adjacent to this line five specimens on one side, parallel to the line (warp) and five specimens on the other side perpendicular to the line (filling).

The test specimens shall be cut 8 in. long by 2 in. wide, and shall be ravelled to the specified number of threads per inch by removing approximately an equal number of threads from each side of the required width.

The test specimens shall be placed in a ventilated drying oven and maintained at a temperature of 105 to 110 degrees C. (221 to 230 degrees F.) and dried to constant weight as determined by two consecutive weighings not less than ten minutes apart, and showing a further loss of not more than 0.1 per cent. of the previous weighing.

TENSION TEST

3. (*a*) One test specimen shall be taken (at one time) from the drying oven and immediately securely clamped in the two jaws of the machine, care being taken to see that the threads being tested are parallel to the direction of the pull and the cross threads are perpendicular to the line of pull.

(*b*) The breaking stress should be obtained within 30 seconds after taking a specimen from the oven.

(*c*) The length of test specimen between the jaws or clamps of the testing machine shall be 3 in. and the pulling jaw should travel at a uniform rate of 12 in. per minute.

(*d*) All jaws or clamps shall be at least 2 in. wide.

(*e*) The average results of tests should be reported separately for warp and filling.

ELONGATION

4. The elongation or stretch at break ing shall be determined as follows: Draw two parallel lines 3 in. apart upon the test specimen, previous to placing it in the drying oven as it lies flat without tension upon a smooth surface. By suitable means measure the distance between these lines at the instant of breakage. The increase in length of the 3-in. portion shall be the elongation and may be expressed either in units of length or as the percentage of 3 in.

WEIGHT OF FABRIC

5. The weight of the fabric per square yard shall be based upon the weight and length of a complete roll and may be expressed either as (*a*) the weight dry, or (*b*) the standard weight, that is, the weight dry, increased by a standard moisture allowance of 8.5 per cent.

6. All covering and binding material shall be removed and the net weight of the roll quickly determined. A sample for the moisture test (described in Section 7) shall be taken immediately. The length of the roll and the width (described later) shall be determined quickly and accurately. As soon as the inner end is reached, a second moisture sample shall be taken.

MOISTURE CONTENT

7. For the determination of the moisture content two test specimens of approximately equal area, the combined weight of which shall be at least 3.5 oz.[2] (100 g.) shall be taken as described in Section 6, one from each end of the roll, placed in a dry, air-tight container, the weight of which has been previously determined, carefully weighed therein, then removed (a check weighing being made on the container), the net weight calculated and the sample dried to constant weight in the same manner as described for the tensile strength. The difference between the original net weight of the sample and its dry weight is the loss of moisture. The percentage that this loss is of the original weight shall be considered the percentage moisture content of the roll.

DRY WEIGHT OF ROLL

8. The net weight of the roll less that weight multiplied by the percentage moisture content found by the test, divided by 100, shall be considered the dry weight of the roll.

The dry weight of the roll may also be computed from the moisture test by the following proportion:

Net weight of sample : Net weight of roll.

Dry weight of sample : Dry weight of roll.

For condition (*a*):

Dry weight per sq. yd. = Dry weight of roll / Area of roll in square yards

For condition (*b*):

Standard weight per sq. yd. = Dry weight of roll + (8.5% of dry weight) / Area of roll in square yards

WIDTH OF SAMPLE

9. The width shall be determined at

[1] These lines should be sharp and distinct. They may be quickly, conveniently and accurately made with a die, inked by means of an ordinary stamp pad. The die may consist of two metal strips set crosswise of the grain into a well-seasoned block of hard wood, the inner faces milled accurately parallel and 3 in. apart and the outer faces ground away so as to form a fine, but non-cutting edge. A die entirely of metal would of course be superior.

[2] For a fabric weighing 17¼ oz. per sq. yd., at least 260 sq. in., 130 sq. in. form each end, would be required. It is not necessary that each of these test specimens be a continuous piece, but a strip 2.5 to 3 in. wide cut the entire width of a 60-in. fabric forms a convenient and representative sample because it contains portions of both the ends and the middle of the roll. If for other purposes of comparison it is desired to have the specimens of definite shape or aliquot parts of a square yard such as 9 or 16 or 24 sq. in., they may be conveniently cut with a sharp-edged circular die pressed upon a smooth but not too-hard surface such as block tin or sheet lead. Equal total areas could in this manner be readily taken from each end of the roll. Care should be exercised to handle the moisture specimens as little as possible, preferably with the hands covered by some type of dry, non-absorbent gloves and to place them in the air-tight weighing container immediately.

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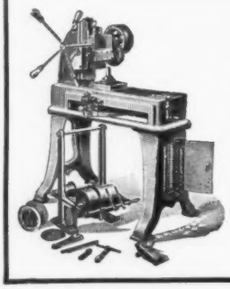

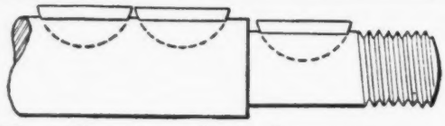

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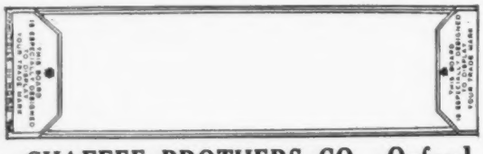

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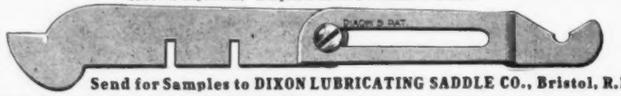

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five different places uniformly distributed along the full length of the roll and may be determined at the same time as the total length.

The average of the five measurements shall be the width.

MEASURING LENGTH

The length of a roll shall be determined by running the cloth over a measuring drum of known circumference, from which the yardage is registered by a dial or counter driven by a chain or other positive or non-slip mechanism. Just enough uniform tensions[3] is to be used on the cloth to keep it running flat and true.

NUMBER OF THREADS PER INCH

10. The number of threads per inch or count of the fabric shall be determined by counting a space of 10 in. in at least five different places in the roll. The average of the five determinations shall be the count.[4]

[3] It has been suggested that a uniform tension of 2.5 times the weight of five running yards of the fabric will be sufficient to keep the fabric flat and preserve a proper relation for comparison of different fabrics. Invitation is extended to report to the committee the results of such tests upon different fabrics.

[4] A 10-in. steel "count scale" similar to an engineer's triangular scale, graduated with teeth one inch apart on one edge, and to the specifications of the cloth on the others,—for example, 23 teeth per inch on the second and 23 teeth per inch with each inch indicated on the third edge, as shown in Fig. 2 will be found convenient, rapid, and accurate for making this measurement when used in the manner of a machinist's thread gage. The chairman will furnish any information desired regarding this count scale.

Regulations upon Importation of Foreign Cottons

By C. J. H. Woodbury, Secretary National Association Cotton Mfrs.

THE cotton crop in this country has suffered severely from the ravages of the Mexican boll weevil, entailing such severe losses upon the planters that they are very naturally on their guard against further incursions from any other parasites, especially on the cotton crop.

At the ninety-seventh meeting of the National Association of Cotton Manufacturers, held at Hotel Aspinwall, Lenox, Mass., Sept. 29-Oct. 1, 1914, a paper upon Egyptian cotton was read by title before this association in which references were made to the pink boll worm on impairing the Egyptian cotton crop, reducing its yield fully 50 per cent. in those districts where it had obtained a foothold.

Early in the spring of 1914, there were two importations of Egyptian cotton seed, one to South Carolina and the other to Oklahoma, which were to be used in attempts for producing a hybrid cotton. The inspection at the Custom House showed that these cotton seeds were infested with the larvæ of the pink boll worm, and further investigations showed that all cottons foreign to the United States were infested with this pest which had existed in Egyptian cotton raised in certain districts for about four years, having been introduced into Egypt in a lot of Indian cotton, and spread with great rapidity.

Lord Kitchener, the British agent and Consul-General of Egypt, appointed a commission and took the most active measures with which his position was endowed to exterminate this pest in Egyptian cotton; but as in the case of many insects when introduced into a new country they developed rapidly, reducing the yield of cotton in certain districts one-half.

The Department of Agriculture was fully alive to the threatening danger to American cotton and furthermore learned that the pink boll worm was not limited to cotton, but would thrive on a large number of plants in the temperate zone, and referred the matter to the Federal Horticultural Board, who gave a hearing on the subject on May 15, 1914. The secretary of the National Association protested against the two proposed measures for treatment of this subject, one of which was an embargo upon foreign cottons, and the other an interdiction upon the interstate commerce between the northern ports of entry and the cotton-growing states, and proposed in its stead that all mills using foreign cottons should burn the seed at the close of the day's work.

Concurrently with this a bill was introduced into the House of Representatives, H. R. 16582, requiring the Secretary of Agriculture to exclude from importation cotton and cotton seed from Egypt, for which action there was ample and undisputed authority conferred upon the Secretary of Agriculture by the Seed Importation Act 37, Statute 506, of Aug. 24, 1912.

The voluntary destruction of cotton seed was, as far as known, universally complied with by mills using foreign cottons until January, 1915, when it was incidentally learned by representatives of the Department of Agriculture that six mills in one of the cotton growing states had grossly neglected these precautions, and the Department of Agriculture naturally proceeded to consider the exercise of their powers under the law.

Hearings and conferences were held at Washington and at Boston for the purpose of avoiding any embargo, and resulted in the Department establishing regulations for the use of foreign cottons and requiring that the permits to use such cotton should be granted only to cotton which had been fumigated, beginning on the first of February, 1916. There are two such plants in Boston, one known as the Vacuum Fumigating Co., owned by cotton manufacturing and dealing concerns, and the other by the Terminal Wharf and Railroad Warehouse Co. of Boston, each of whom has a plant capable of fumigating the cotton in such a manner as to destroy all insect life which it may contain.

The experts of the Agricultural Department believe from the preliminary trials that these methods will be sufficient in preventing the introduction of the pink boll worm into the United States, at a very slight cost for treatment, dependent upon the weight and density of the different bales and without injury to the character of the fiber.

The serious aspect of the peril of the pink boll worm, not merely to cotton crops in other portions of the world, but also to other crop growths is shown by the memorandum from the Egyptian Ministry of Agriculture to the Manchester Chamber of Commerce, calling upon importers to exercise all precautions by way of fumigation upon the Egyptian cotton imported into that country. The peril is confined to those seeds which pass through the gins, largely around the ends of the rollers.

Not Prepared to Fumigate

BOSTON, Feb. 2.—The rules of the Federal Horticultural Board, governing the importation and fumigation of foreign cotton lint, went into effect Monday at midnight and found only one small plant in Boston ready to comply with the fumigation regulations; this is the plant of the Terminal Wharf & Railroad Warehouse Co. They have one cylinder ready with a capacity of about 500 bales each 24 hours, although they expect by Feb. 15 to operate four cylinders with a capacity of 2,000 bales

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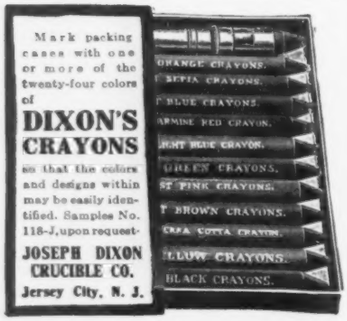

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every 24 hours. The Vacuum Fumigating Company, which is a co-operative organization of importers and manufacturers, has not completed its building in Somerville and will probably not be ready to fumigate for two months. Another plant to be operated by the Vacuum Fumigating Co. in Boston may be delayed even longer.

GOVERNMENT REFUSES TO DELAY DATE

It became evident a few weeks ago that there would not be sufficient facilities for fumigating foreign cotton on Feb. 1 and efforts were made by importers and manufacturers to secure a further delay, but government officials have denied such pleas upon the ground that ample notice had been given the trade. They also point to the fact that the Terminal Warehouse will have its complete plant in operation within a few weeks. Government officials, however, fail to take cognizance of the large increase in importations of Egyptian cotton following the extremely active market of the last two months. Many mill men who thought themselves well covered with Egyptian cotton two months ago have been forced to buy spots within the last two weeks at the best prices obtainable, and prices for most grades of Egyptian have advanced radically as a result of this unexpected demand. Sakelarides that was selling two months ago at 24½c. is now scarce for prompt delivery at 30½c., and other grades have been advanced proportionately.

LARGE EGYPTIAN SHIPMENTS DUE

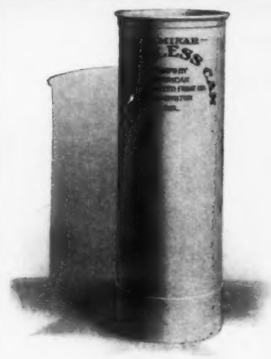
The White Star steamer Ninian with 5,000 bales of Egyptian, and the Leyland liner Archendale with over 8,000 bales arrived the end of last week and were discharged in time to evade the fumigation regulations, but three steamers are due this week with an aggregate of about 25,000 bales, and nearly as much more Egyptian cotton is due to arrive in Boston within the next week or ten days. Just how this large amount of cotton is to be fumigated and delivered to the mills without serious delay and inconvenience the trade is unable to understand. If the Federal Horticultural Board refuses to modify its fumigation regulations it is possible that some mills, which must have spot cotton within the next few weeks, may have to pay dearly for the latter.

The Vacuum Fumigating Co. has leased space in the Bush Terminal at the Port of New York for the establishment of a fumigating plant. So far as could be learned in the trade this plant will not be ready for some time. In the meantime cotton imported at New York must be reshipped in bond to Boston and formally entered through that port to be fumigated.

Russian Coal Tar Industry

Considerable progress has been made with the task of organizing a Russian coal tar color industry. We reported some months ago that this scheme was proposed, and we understand that the capital is now provided for the most part by the Russian textile industry. A staff of trained Swiss experts supported by a Swiss chemical syndicate, having direct interest in the concern, have been entrusted with the organization and direction of the works. The dyeware factories which are established in various convenient centres are sufficiently remote from the Polish theatre of war to insure any likely prospect of destruction by military movements. They will be supplied with crude tar derivations from the Russian coke factories. It is anticipated that by this means the present shortage of textile dyes in Russia will be remedied by the spring.

—From the Dyer and Calico Printer.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COTTON MANUFACTURES—Continued (Export and Domestic Goods Markets)

FINISHED GOODS EXPORT INQUIRY NOT FILLED

Dyestuff Shortage and High Freight Rates Retard Selling of Finished Goods—Far East Dormant

A prominent cotton goods exporter recently remarked that the present day export trade amounted to a first-rate retail business. Buyers from miscellaneous markets are numerous, and they are anxious to place orders for goods, but manufacturers are, in many cases, either not able to offer merchandise of acceptable quality because of inferior dyestuffs, or they cannot make deliveries. If mills were in a position to accept all the business for finished goods offered them by foreign markets, the total would amount to a yardage greater than has ever been recorded in the history of American exports. Inquiries for finished cotton goods are coming from nearly every section of the world, but chiefly from the miscellaneous markets. Demand is wide, and includes cotton corduroys, velvets, linings, duck, colored piece goods, prints, yarn-dyed fabrics and bleached goods. A single merchant is reported to have orders for corduroy amounting to several million yards that he cannot place because mills running on this class of goods are completely sold up for nearby deliveries. In this instance, the demand is from England, and, being created by conditions resulting from the war, is not likely to continue after peace has been established.

MISCELLANEOUS TRADE GOOD

Manufacturers who have been developing export trade in South America are endeavoring to supply their customers with usual lines. It has been difficult to obtain goods of the standard this market requires on account of the dyestuff situation, but in spite of this, more business has been transacted than was usual in pre-war times. Beside established lines of printed and bleached goods, underwear, hosiery and yarns, a vast number of specialties that, previous to the war were imported from Europe, have been included in recent exports from the United States. Argentina has been the most active buyer of South America, but Chile, Paraguay, Uruguay, Brazil and Colombia have been in the market, and where merchandise has been satisfactory to this trade current prices have been paid. Unusual conditions brought on by the war have afforded the United States an excellent opportunity to increase exports of cotton goods to South America. Prices are high in the domestic market, but similar advances have been made in certain foreign markets, while others have been forced to withdraw altogether. Competition has been largely shut off and buyers are willing to pay current prices, but difficulties in manufacturing and shortage of bottoms have offset these advantages. Reports from Cuba are favorable. Crops are being marketed at high prices and general business is good. Merchants from this market are buying earlier than usual this year, and although purchases are not large, there is active inquiry and many small lots are being taken. England continues to inquire for heavy cotton goods, such as corduroys and plushes, but mills are already sold far ahead on these fabrics, especially in 14-oz. weights which are most desired. Shipping facilities to the Philippines and Australia are not dependable and insurance rates are so high that it is almost impossible to quote C. i. f. prices, and trade is retarded.

FAR EAST UNCHANGED

The only recent business reported actually put through in the East has been with India which, it is estimated, amounted to about 3,500 bales of drills. The Red Sea district is a dead issue for the present because of shipping conditions. Merchants from that district are forced to resell goods that are being held for their account, although a better profit could be obtained in the home market if transportation conditions were normal. No business with China has been reported, and the situation in that market is unchanged.

HIGHER BLEACHING COST

Good Prospect of Advance by Finishers to Meet Rise in Materials

During the last five or six years demand for bleached goods has been less than the capacity of bleacheries. Competition forced prices down to starvation levels and customers were in a position virtually to name prices. These reached rock bottom last summer. Since then the shortage of dyestuffs has created a tendency toward white goods which has resulted in a demand in excess of the normal capacity of bleacheries. There are approximately 20 bleacheries of reasonable size which have a combined capacity of from 30,000,000 to 35,000,000 yards per week, a yardage considerably less than the probable demand. Smaller bleacheries and colored goods plants will take care of the surplus, but their equipment is not suited to compete on even terms with plants equipped mainly to handle plain bleached goods.

BLEACHING PRICES NOW NORMAL

Bleaching prices have already advanced on an average of 10 per cent. from the low point, and in certain instances more. Take, for example, backfilled cambric, which is a good illustration of the general situation. When this class of goods was first introduced into this country, a price of 5½c. was universally paid for the bleaching. This gradually dropped to a weak ½c. Early in December of last year a price of .55c. was made to take effect Jan. 1, but within three weeks an additional 5 points were added. These advances have brought prices back to normal conditions only, and do not take into consideration the abnormal rise in cost of bleaching materials, which is not yet keenly felt by bleacheries because they are, for the most part, still taking in their supplies under old contracts. The present market prices on bleaching materials have advanced from 500 to 1,500 per cent, and if finishing charges were figured on these new quotations for bleaching supplies, the cost of backfilled cambric would be about 1 to 1¼c.

ADVANCE IN MATERIALS

The advance in price of caustic soda is attributed to the fact that the Solvay plants in the North of France, which are the largest producers of this material are not running, and large quantities have been exported from the United States to make up the deficit. Bleaching powder used in this market is mostly manufactured in electrolytic works at Niagara Falls, and the abnormal advance from 1½c.. to 17½c. is only accounted for by increased demand. Labor, under normal conditions, is figured by many finishers as about one-third of their total costs. Wages have already advanced, and it is not unlikely that they will go higher. The costs of coal and miscellaneous supplies, such as leather, oil, etc., have increased steadily. The combined effect of higher costs together with greater demand for bleached goods points to further advances in bleaching charges.

CHINESE COTTON INDUSTRY

Analysis of Cost of Materials, Labor, Power, Buildings, etc.

The following report on the cotton manufacturing industry of China is from *The Americas*.

At present there are approximately 1,000,000 spindles and 4,000 looms in China, of which about 60 per cent. of the spindles and 30 per cent. of the looms have been in operation since 1895. The remainder have been added in the last five years. Shanghai is the center of the industry, and more than 500,000 spindles and 3,000 looms are in the mills there; of these about 300,000 spindles are in mills controlled by English or Germans and 200,000 by Japanese.

The mills in the country are principally engaged in making yarn numbers 10s, 12s, 14s, 16s, 18s and 20s. Weaving is a comparatively new industry, but is growing rapidly. The principal cloths made are 36 inch 44/44 and 48/48, 3.00, 3.25, 2.50 and 2.85 yard sheetings and 30 inch 68/44 and 68/48 gray drills weighing 2.50, 2.85 and 3.00 yards per pound.

When market conditions are good the spinning mills run night and day with only 15 minutes or at most 30 minutes stop between night and day shifts, and a stop on Sunday of 12 hours between 6 a.m. and 6 p.m. Ordinarily the looms run 12 or 13 hours per day. The total annual production when the mills are running at full capacity is 200,000,000 to 225,000,000 pounds of yarn and 35,000,000 to 50,000,000 yards of cloth.

The total imports of yarn and sheetings and drills into China from foreign countries, according to the returns of the Chinese Maritime Customs, have been as follows:

	Yarn. (Pounds.)	Sheetings. (Pieces.)	Drills. (Pieces.)
1911.....	248,016,800	3,164,070	1,587,350
1912.....	306,463,867	3,484,040	1,357,025
1913.....	358,048,400	5,209,041	2,291,427

Japan and the United States supply practically all the gray sheetings and drills. The imports from these two countries in recent years have been as follows (pieces are 40 yards long):

Sheetings.	Japan. (Pieces.)	United States. (Pieces.)
1909.....	531,592	2,453,345
1911.....	1,616,020	1,384,731
1912.....	1,928,763	1,404,713
1913.....	3,356,011	1,559,255
Drills:		
1909.....	598,975	981,423
1911.....	1,012,735	499,159
1912.....	827,037	454,320
1913.....	1,666,757	507,138

RAW MATERIAL COSTS

There is a fairly large supply of Chinese cotton available. Many different qualities are grown, but the best has many of the characteristics of American cotton, is ¾ to ⅞ inch in staple and sometimes longer, fairly strong and has a good luster. It has been found suitable for spinning up to 16s and 20s yarn for the market, and one mill claims to have successfully spun 32s with the finest grade. In making yarns for mechanical looms it is advisable to use about 25 per cent. American cotton in order to improve the quality of the yarn and cloth and increase production.

The price of the cotton is largely dependent on the demand from mills in China and from Japan, which is the largest purchaser. In 1913 and the early part of 1914, when American strict middling cotton was worth 12c. to 13c. at southern mill points, the best Chinese cotton was worth 10c. to 11c. However, cheaper qualities costing 5c. to 6c. per pound can be used satisfactorily in spinning up to 14s yarn.

Labor is cheaper in China than in any

(*Continued on page 69*)

COTTON GOODS FIRM; NAPPED GOODS SOLD UP

Market Not Affected by Cotton Prices —All Lines of Finished Goods Active—Element of Speculation

Cotton goods are firm in all lines with the possible exception of certain staple print cloths and medium weight sheetings. Fluctuations in the cotton market have influenced buyers to seek concessions from manufacturers and selling agents, but other conditions have more than offset the drop in cotton, and prices have stiffened. Buyers are in the market for further supplies, and are anxious to get deliveries on old orders which are behind hand. It is their opinion that mills in many cases have oversold their product, and as they have readily paid advance prices they are insisting on deliveries. Brokers are reported to have such confidence in further advances that they are advising their clients to place orders for distant deliveries. Manufacturers of finished goods fear an element of speculation, and are not willing to accept orders greatly in excess of buyers' usual demands. The dyestuff situation and labor problem promise to become more strained before improvement can be hoped for. Although numerous dyestuffs are reported on the market, or in process of manufacture, the fact remains that it is impossible to secure many colors in even moderate quantities except at prohibitive prices. Competitive industries are attracting labor with higher pay and further increases in wages are likely.

NAPPED GOODS WITHDRAWN

Since napped goods prices have been named buyers have placed contracts even larger than last year, when low prices, due to cheap cotton, made this class of merchandise a good buy. It has been reported that more than the production has been sold, and that manufacturers will not be able to make deliveries on a considerable percentage of the business taken. Several important lines have already been withdrawn, and advances of ½c. a yard on other lines have been announced. One manufacturer is taking orders for delivery after October, subject to goods being in stock at that time.

CORDUROYS AND PLUSHES ACTIVE

Cotton corduroys and pile fabrics have advanced about 50 per cent. from last year's prices. Mills are running full and there is sufficient business on hand to warrant night shifts, but munition factories have taken the available labor. Two-ply 30s warp yarns usd in 14-ounce goods which are most in demand are commanding premiums for prompt shipment, and mills are generally sold ahead six to eight months. Velveteens are being sold more readily than corduroys. Manufacturers are discouraging jacquard figures because of slower production and lack of dyestuffs of a character suitable for bringing out figures to best advantage. Quantities of this class of merchandise are wanted for export, but manufacturers have not been able to met the demand.

WASH FABRICS SELLING WELL

Wash fabrics of all descriptions are selling well, and converters are able to dispose of goods without difficulty but dyestuff costs combined with radical advances in fine cotton and silk and cotton mixtures have caused them to hesitate in placing orders with mills for late future delivery. Additional lines of bleached goods have been advanced since those mentioned last week, and demand continues active. The proba-

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COTTON MANUFACTURES—Continued

bility of advances in bleaching costs, which is dealt with in another column, points toward still higher prices in bleached goods.

PRINT CLOTHS UNCHANGED

Staple print cloths have changed little during the week. Small sales of spot lots are reported on a basis of 4 13-16c. for 38½-inch 64 x 60s, and 5¼c. for 39-inch 68 x 72s, but this is ⅛c. under prices generally asked by mills. Looms are steadily being reverted to finer yarn constructions, and an equalizing of prices with other lines is expected. Fancy constructions are in good demand, with buyers willing to pay full asking prices provided they can get deliveries desired. New Bedford and Fall River cotton mills shares are still moving upward, showing the improved situation in these mill centers. Sheetings are still easy in medium weights of 36 inches, but are holding firm on a basis of 6c. for 4-yard 56 x 60s, with certain branded goods at ⅛c. higher. Heavy sheetings in 40-inch width are active, and mills making constructions suitable for the bag trade are well sold ahead. Wide sheetings are hard to obtain, and certain lines have been advanced during the week.

COTTON GOODS TRADE NOTES

West, Baker & Co. made the following announcement on Jan. 31: "The copartnership heretofore existing under the firm name of West, Baker & Co., consisting of Edwin H. Baker, William T. West, Elliott M. Eldredge and Mesier R. Snyder, and doing business at 61-63 Worth Street, New York City, expires this day by limitation. Edwin H. Baker and William T. West will liquidate the interests of the firm at the same address." Under date of Feb. 1 it was announced that Edwin H. Baker and William T. West would continue to conduct a dry goods commission business under the firm name of West, Baker & Co., at 61-63 Worth Street, and that Nathaniel B. Day, Joseph T. Foster and John F. Sutorius had been admitted to an interest in the business.

On Feb. 1 it was announced that the new firm of Eldredge & Snyder, located at 73 Worth Street, is to represent the Cabot Manufacturing Co., the Fisher Manufacturing Co., the Cutler Mills Co., the Beaver Mills brand of white and colored linens, and the Mervale bleached goods. A full range of curtain goods, plain and dotted muslins, pillow tubing, wide sheetings, dress swisses, and marquisettes will be carried. Percy Hopple will travel West for the firm, Richard M. Lea, south, and O. Stanley Eldredge will cover Philadelphia and Baltimore. Messrs. Skinner and Guest will be associated with the selling organization of the firm, and William A. Moore will be the cashier. The Boston office is located at 133 Essex Street, under the management of Herbert C. Williams.

West, Baker & Co. will be represented in New England by Herbert L. McClearn & Co., 183 Essex Street, Boston, Mass.

Bliss, Fabyan & Co. have advanced Pepperell wide sheetings to a basis of 28c. for 10-4 goods, and Hill and Androscoggin L. L. bleached cottons to 8½c.

Amory, Browne & Co. have withdrawn Alabama domestic plaids from the market.

The Cone Export and Commission Co. has sold up and withdrawn the lines of Mineola flannels and melange cloth which were opened last week.

The J. Spencer Turner Co. have made the following announcement to the trade: "The J. Spencer Turner Co. begs to announce that it has consolidated the business of C. H. & R. L. Stevens, Inc., with its yarn department, and herafter will be equipped to supply cotton yarns of all counts and descriptions under the personal direction of Messrs. C. H. & R. L. Stevens. On and after Feb. 1, a southern office will be maintained at 208 Lalta Arcade, Charlotte, N. C., where L. C. Dickson will be in charge."

Harding, Tilton & Co., dry goods commission merchants, Boston, have moved into handsome new quarters on the second floor of the Columbian Life Insurance Building, 77 Franklin Street.

ENGLISH COTTON GOODS' ADVANCE CHECKS BUYING

Difficulty in Industry With Labor Shortage, Decreased Exports and Dyestuffs Scarcity

(From Our Regular Correspondent)

MANCHESTER, ENG., Jan. 13.—At Liverpool this week American middling cotton at spot touched the highest point since the outbreak of the war, viz., 8.29d. per pound, compared with 4.74d. and 6.97d. for the first weeks in 1915 and 1914, respectively. It is the highest point since June, 1911, when 8.38d. was quoted. A large business has been done both in spots and futures, with fluctuations of 40 points in the latter. The situation in Manchester is at present decidedly unsettled by these movements in raw material. Spinners naturally follow as far as they can any upward movement in cotton, and are just now in the majority of cases well placed to do so. Hence there are material advances in quotations, spread over the whole range of counts, but most noticeable proportionately in coarse and medium American numbers.

ADVANCE IN YARNS

Since the beginning of the year 32s mule twist has advanced 5/8d. to ¾d. per pound, 40s weft 5/8d. to 7/8d. in American and 60s twist ¾d. to 1d. in Egyptians. These are advances of about 4½d. to 5d. since the war began. Cotton at Liverpool, taking American spot middling as a basis, has since the beginning of the year advanced ¾d. per pound and since the outbreak of the war 3¾d. per pound, and on that comparison the average run of margins between cotton and cotton yarns has been to the advantage of spinners, but what gain has been made has come recently.

In the last month there has been a good business in yarns, irregularly distributed. Coarse and medium counts up to a week ago, when the advances checked buying, sold in considerable quantities, mostly to home manufacturers engaged on heavy fabrics for war requirements, with finer counts gradually improving in request, and for the last week showing best results. Judged by the volume of Liverpool spot business in cotton reported from day to day, there seems to be little less than the normal number of spindles idle in Lancashire. That basis is misleading, for the consumption of cotton per spindle running has been for some time and still is well above normal, owing to the demand for coarse yarns for heavy goods. Much machinery previously on higher counts has been adjusted to take advantage of this demand, and while no yarns are just now in excessive supply, there is positive scarcity in most numbers from 36s downward. Reports have been current even of some of the lowest numbers, 4s and 6s, for instance, being imported into Lancashire from Bombay. The spinning division has been much

(*Continued on page 73*)

FINANCIAL MARKETS—MILL SHARES AND STATEMENTS

FALL RIVER MILL STOCKS

Criticism of Mills Which Do Not Pay Dividends

FALL RIVER, Mass., Feb. 3.—Stockholders of the Hargraves Mills and the Parker Mills are in a state of restlessness. What it may portend for the management of Seth A. Borden, who is the treasurer of both corporations, depends on whether there is a crystallization of sentiment strong enough to result in action for a change. With about all of the makers of fine goods in New Bedford entering the class of dividend payers if not enrolled right along, and with the convincing evidence at home of similar prosperity attending the production and sale of the best class of cottons, there is loud questioning of the failure of the Hargraves and the Parker to enter the current.

TREASURER BLAMED

Most of the blame naturally is put upon the treasurer. That somebody else in his position could pull the companies out of the slough is asserted by those who are yielding to their disappointment and talking loudly that forbearance cannot be maintained indefinitely out of sentimental regard for what was done under similar conditions in 1906.

APPRAISAL OF ASSETS

At the annual meeting, it was stated, that there had been a considerable outlay on machinery, and that the fashions had detracted from the demand for the materials turned out.

In spite of the criticism, the quotation has advanced on both Hargraves and Parker. Each was viewed as worth no more than 40 a few months ago; today the price has advanced to 52. Bidding is not active at any figure. Some of the directors declare that if the faultfinders will be patient, evidence will be forthcoming that there is improvement. Application of earnings to liabilities is preferred by the board to promoting a questionable appreciation of shares.

DIVIDEND COMPILATIONS

Haffards & Co.'s dividend compilation for the first quarter of 1916 shows a total distribution of $342,417. This is $6,000 less than was paid the last quarter of 1915, and $83,642 in excess of the dividend total for the first period. During all of 1914 only one-quarter's disbursements reached the sum. The failure of the American Linen Co. to announce was made up in percentage by the Arkwright Mills entering the dividend ranks for the first time in several years. The Merchants Manufacturing Co. went back to 1 per cent., after having made up a dividend of the same figure last year. The Pilgrim Mills restored a passed dividend of 1½ per cent. on the preferred issue of 3,500 shares. The Pocasset Manufacturing Co. is another corporation to contribute slightly to the difference between the present showing and the last, its rate being 1 per cent. on a capital of $1,200,000. There was a gratuity of 1 per cent. to stockholders of the Richard Borden Manufacturing Co., with the result that they received 2½ per cent. The Sagamore returned to the normal of 2 per cent., and the Weetamoe increased a half of 1 per cent. Nine of the 38 corporations included in the statement made no return; 14 paid at the rate of 1½ per cent., and 9 at the rate of 1 per cent. The Cornell Mills, the Luther Manufacturing Co. and the Troy Cotton & Woolen Manufactory declared 2 per cent.

The annual meeting of the Troy took place the other day. A net debt of $108,597 was reported. This is a reduction of $29,651. Dividends amounted to $24,000, or 8 per cent. on the capital of $300,000. The real estate and construction account was reduced $30,000, and the charge to profit and loss decreased from $9,872 to $888. Bonds amounting to $19,500 were cancelled.

NEW BEDFORD MEETINGS

Meetings of New Bedford corporations were held during the week. Treasurers' statements disclose almost a revolution in business in the twelvemonth. The Holmes mill turned a deficit of $10,224 into surplus of quick assets of $214,528. The directors declared a quarterly dividend of 2 per cent. on both the common and preferred shares. Profit and loss jumped from $291,511 to $442,273.

Where a year ago the Whitman mill showed a debt of $38,281, Treasurer Albert G. Mason's balance sheet presents a surplus of quick assets amounting to $106,651. There is an allowance of $505,496 for depreciation, and the charge to profit and loss is given as $492,896.

The Sharp Manufacturing Co. reduced its real estate holdings $40,165, added to its equipment of machinery valued at $134,365, and changed a debt of $17,563 into a surplus, which appears at $409,373.

BOSTON STOCK AUCTIONS

The sales of textile shares at the Boston auctions on Wednesday were as follows:

Shares.	Mill.	Par.	Sales.	Chge.
1	Hamilton Cotton	100	74½	—⅝
2	Lyman	100	124¼	+1¾
101	Mass. In Ga.	100	101¼-¾	+¼
1	Lawrence	100	180¼	+14½
2	Merrimack com	100	37½	+1⅜
5	Esmond pf.	100	96¾	+1¼
10	Pacific	100	133	+4¼
1	Newmarket	100	120	+8
20	Ludlow Mfg.	100	126	+⅞
1	Suncook com.	100	20	....
19	Arlington	100	101	+1
5	Berkshire Cotton	100	202½	+¼
40	Renfrew com.	100	*75	+9¾
10	Pilgrim pf.	100	93	....

218 Total.
* Last sale Dec., 1912.

FINANCIAL NOTES

At a meeting of the stockholders of the Lyman Mills, cotton goods, Holyoke, Mass., held in Boston on Wednesday Ernest Lovering was elected treasurer to succeed the late Theophilus Parsons; since the death of Mr. Parsons Mr. Lovering had been acting as treasurer pro tem. Since 1908 Mr. Lovering has been treasurer of the Dwight Manufacturing Co., Chicopee, Mass., and for about 25 years previous to that was agent of the Lyman Mills. Clifton P. Baker, treasurer of the Lawrence Manufacturing Co., Lowell, Mass., was elected to the board of directors of the Lyman Mills, and the other officers of the company were re-elected. The regular semi-annual dividend of 3 per cent. of the Lyman Mills was paid on Tuesday of this week.

New England Mill Stocks.

Note.—Quotations not marked * represent sales prior to July 31, 1914.

	Par.	Sale. Latest.	Sale. Previous.
Am. Woolen pf.	$100	*96½	*97
Amoskeag	100	*69	*69
Amoskeag pf.	100	*100¼	*100
Androscoggin	100	*160	*160
Appleton	100	*185½	*172
Arlington	100	*101	*110
Bates	100	*243½	*240
Bigelow-Hartford pf.	100	*112	*111¾
Chicopee	100	*63½	*60
Continental	100	75¼	75
Dwight	500	*1000	*1033
Edwards	100	399	98½
Esmond pf.	100	95½	92½
Everett	100	*120	*118
Franklin	100	*201½	*200
Great Falls	100	*189	*190¼
Hamilton Woolen	100	*80	*95
Hamilton Cotton	100	*74½	*75½
Hill	100	*85	*90¼
Lancaster	100	*80	*79
Lawrence	100	*180¼	*165¾
Lockwood	100	*100⅛	*98¼
Ludlow Associates	100	*126	*125½
Lyman	100	*124¼	*122½
Massachusetts	100	*140	*137½
Mass. Mills in Ga.	100	*101¾	*101½
Merrimack pf.	100	*86	*83
Merrimack com.	100	*37½	*36⅛
Middlesex	100	*55¼	*55
Nashua	500	*770¼	*752
Naumkeag	100	*185	*185
N. E. Cot. Yn. com.	100	20	20
N. E. Cot. Yn. pf.	100	*51	*35
Newmarket	100	*112	*95¼
Pacific	100	*133	*128¾
Pepperell	100	*345	*345
Pepperell (new)	100	†*128⅛	*120¾
Plymouth Cordage	100	†*197½	*195½
Salmon Falls M. Co.	100	*38¼	*23½
Tremont and Suffolk	100	*112	*107
Waltham B. & D.	100	*100¼	140
York Mfg. Co.	100	*95¼	*94½

* Old quotations that are considered at variance with recent figures at private sale.
† Ex-dividend.

Southern Mill Securities.

(By Morton Lachenbruch & Co., New York.)

	Bid.	Asked.
American Spinning Co., com.	160	..
American Spinning Co., pf.	100	..
Anderson Cotton Mills	..	13
Arkwright Mills, S. C.	85	110
Bibb Mfg. Co., com.	165	175
Bibb Mfg. Co., pf.	95	105
Brandon Mills	..	53
Brookside Mills	150	..
Cannon	150	..
Carbarrus	150	..
Cliffside	195	..
Clifton Mills	80	85
Columbus Mfg. Co.	..	..
Courtenay Mfg. Co., S. C.	50	..
Drayton Mills, com.	..	20
Drayton Mills, pf.	..	90
Darlington	..	70
Eagle & Phenix Mills	..	60
Exposition Cotton Mills	110	125
Florence	..	135
Fulton Bag & Cotton	..	..
Gaffney Mfg. Co.	50	75
Gainesville Cotton Mills, Ga.	..	..
Gate City Cotton	..	..
Glenn Lowry, pf.	..	81
Glenwood	..	100
Grandet Mills	..	..
Henrietta Mills	..	120
Highland Park, com.	185	200
Highland Park, pf.	100	..
Hartsville	..	..
Inman Mills	..	95
Kesler	170	..
Lanett Cotton Mills	102	..
Laurens Mills	90	100
Loray Mills, pf.	65	75
Manchester Cotton Mills, Ga.	120	140
Manchester Cotton Mills, S. C.	..	105
Ninety-six, ex-dividend	130	..
Pacolet Mfg. Co., com.	95	100
Pacolet Mfg. Co., 1st pf.	93	100
Parker Cotton Mills, com.	..	..
Parker Cotton Mills, pf.	98½	..
Spartan Mills	..	115
Patterson	129	..
Pelzer Mfg. Co.	90	98
Piedmont Mfg. Co.	120	130
Peli City	..	..
Pickens Cotton Mills	75	105
Salisbury	..	..
Toxaway	..	..
Union Buffalo Cotton Mills, S. C.	..	..
Union Buffalo Cotton Mills, 2nd pf.	5	8
West Point Mfg.	113	..
Whitney	23	30
Woodside Cotton Mills	85	92
Young Hartsell	90	100
Judson Mills, S. C.	20	50
Lockhart Mills, S. C., com.	32	40
Lockhart Mills, S. C., pf.	84	92
Warren Mfg. Co.	..	80
Warren Mfg. Co., pf.	..	97½

Inactive Textile Stocks

(Quoted by Philip M. Tucker, Boston, Mass.)

	Bid.	Asked.
American Mfg. Co. com.	120	..
American Mfg. Co. pf.	99	..
Bay State Cotton 1st pf.	97	100
Bootl	77	..
Boston Duck	1250	..
Boston Mfg. Co.	85	..
*Brookside Mills	150	..
Cabot	122	..
Chadwick Hoskins	..	100
Chicopee	60	65
*Columbian	1350	..
*Columbus	90	95
Contoocook Mills pf.	55	60
Cordis	..	..
Exeter Mfg. Co.	40	..
Fisher	125	..
*Gaffney Mfg. Co.	50	60
Harmony Mills pf.	100	..
*Lancaster (S. C.) Mill pf.	..	100
*Lanett	112½	..
*Lockhart Mills	30	35
Lockhart Mills pf.	..	80
Lawrence Duck	95	..
Lowell Bleachery	125	..
Maverick Mills pf.	80	..
*Monadnock Mills	100	..
Nyanza Mills	115	120
Otis Co.	2750	..
*Pacolet pf.	98	100
*Pacolet com.	99	102
Renfrew Mfg. pf.	105	107½
Renfrew Mfg. com.	75	..
*Riverdale pf.	85	..
Shaw Stocking Co.	50	..
*Spartan Mills	105	115
Thorndike	1325	..
Waltham Bleachery	80	100
*West Point Mfg. Co.	125	130
*Winthrop Mills	100	..

* Taxable in Massachusetts.

West Boylston Humidifiers

The West Boylston Manufacturing Co., of Easthampton, Mass., has awarded contract for humidifiers to the G. M. Parks Company, of Fitchburg, Mass. This purchase makes over 1,200 Turbo Humidifiers that the West Boylston Company has purchased in its various equipment orders of the past few years. The Turbo people report that they have an unusually large amount of humidifier orders on their books, and are equally busy in their mill piping department.

MILL STATEMENTS

Name and address of company.	Line of business.	Fiscal year. Year.	Fiscal year. Date.	Assets. Cash and debts receivable,	Raw materials, mdse., etc.	Total quick assets.	Real estate, bldgs. and machinery.	Miscellaneous. Amount.	Miscellaneous. Description.	Total.	Liabilities. Acct's payable, floating and funded debt.	Capital stock.	Surplus, profit and loss, etc.
So. Acton Woolen Co.,	Wool.	1915,	Dec. 31	$68,799	$56,109	$124,908	$31,553	.....	.....	$156,461	$6,553	$70,000	$79,908
So. Acton, Mass.	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westville Spinning Co.,	Cotton	1915,	Dec. 31	14,108	33,163	47,271	49,711	.....	.....	96,982	30,680	50,000	16,302
Taunton, Mass.	"	1914,	Dec. 31	7,037	37,035	44,072	51,400	.....	.....	95,473	30,358	50,000	[1]15,115
Paul Whitin Mfg. Co.,	"	1916,	Jan. 1	157,042	375,021	532,063	498,408	.....	.....	1,030,471	445,350	250,000	[2]335,121
Northbridge, Mass.	"	1914,	Dec. 31	223,397	228,766	452,163	489,598	.....	.....	941,761	358,276	250,000	[2]333,485
Stevens Linen Works,	Flax	1915,	Dec. 31	285,782	702,929	988,711	168,851	$433,186	Ins., bonds & notes	1,590,748	35,000	700,000	855,748
Webster, Mass.	"	1914,	Dec. 31	559,099	295,580	854,679	171,326	474,925	Ins., bonds & notes	1,500,930	37,925	700,000	763,005
Geo. H. Gilbert Mfg. Co.,	Wool	1915,	Dec. 31	466,354	644,857	1,111,211	100,000	.....	.....	1,211,211	117,315	1,000,000	93,869
Ware, Mass.	"	1914,	Dec. 31	358,984	749,256	1,108,240	100,000	.....	.....	1,208,240	114,725	1,000,000	93,515
L. D. Thayer Mfg. Co.,	Cotton	1916,	Jan. 1	8,928	14,930	23,458	38,000	.....	.....	61,858	1,858	50,000	10,000
Worcester, Mass.	"	1915,	Jan. 1	10,034	20,087	30,121	43,000	.....	.....	73,121	13,121	50,000	10,000
Sterling Knit Goods Co.,	Knit	1915,	Dec. 31	48,031	48,263	96,294	12,176	.....	.....	108,470	62,540	10,000	35,930
Cambridge, Mass.	"	1914,	Dec. 31	53,997	61,480	115,477	11,464	.....	.....	126,492	81,808	10,000	35,134
Warwick Mills,	Cotton	1915,	Dec. 31	40,966	627,563	668,529	1,117,736	.....	.....	1,786,265	702,170	400,000	[4]684,095
Centreville, R. I.	"	1914,	Dec. 31	45,426	517,466	562,892	1,072,417	.....	.....	1,635,309	717,639	400,000	[5]517,670

[1] Includes depreciation reserve, $5,000.
[2] and [3] each include depreciation reserve, $35,200.
[4] Includes depreciation, $268,000.
[5] Includes depreciation, $201,000.

CATLIN & COMPANY
COTTON YARNS
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SKEINS WARPS CONES COPS TUBES

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Carded or Combed **COTTON YARNS**
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Deal Direct With the Mill
SWIFT SPINNING MILLS
COLUMBUS, GA.
White and Colors
MUSCOGEE MFG. CO.
Represented by
VAN COURT CARWITHEN
300 Chestnut Street, Phila.
High Grade WEAVING and KNITTING YARNS

COTTON YARN QUOTATIONS

The following quotations have been compiled in Boston.

EASTERN PEELER CONES.

	Carded.	Combed.
8s	22 @23	28½ @29
10s	23 @24	29 @30
14s	24 @25	31 @32
16s	25 @26	32 @33
20s	26 @27	34 @35
22s	27 @28	35 @36
24s	28 @29	36 @37
26s	29 @30	37 @38
30s	32 @33	40 @41
32s	33 @34	41 @42
34s	34 @35	42 @43
36s	35 @36	43 @44
40s	38 @40	45 @46

EASTERN TWO-PLY SKEINS.

	Peeler. Carded.	Combed.
12s	27 @28	34 @35
14s	28 @29	35 @36
16s	29 @30	36 @37
18s	30 @31	37 @38
20s	31 @32	38 @39
22s	32 @33	39 @40
24s	33 @34	40 @41
26s	34 @35	41 @42
28s	35 @36	42 @43
30s	36 @37	43 @44
36s	39 @40	47 @48
38s	40 @41	48 @49
40s	41 @42	50 @52
50s		57 @59
60s		65 @70
70s		75 @80
80s		85 @90

EASTERN TWO-PLY WARPS.

	Carded.	Combed.
2-30s	37 @38	44 @45
2-36s	40 @41	48 @49
2-40s	42 @43	51 @52
2-50s		58 @60
2-60s		66 @71
2-70s		76 @81
2-80s		86 @91

EGYPTIAN (COMBED) WEAVING YARN

SINGLE SKEINS.

30s 53	@54	55s 68	@70
35s 56	@57	60s 72	@73
40s 59	@60	70s 81	@82
45s 62	@63	80s 91	@92
50s 65	@66	90s 1 01	@1 02

TWO AND THREE-PLY SKEINS.

30s 54	@56	65s 77	@79
35s 57	@59	70s 83	@86
40s 60	@62	75s 88	@90
45s 63	@65	80s 93	@96
50s 66	@68	90s 1 03	@1 06
60s 73	@75		

TWO-PLY WARPS.

2-30s 55	@56	2-50s 67	@68
2-35s 58	@59	2-60s 74	@75
2-40s 61	@62	2-70s 84	@86
2-45s 64	@65	2-80s 94	@96

EGYPTIAN YARN ON COPS.

	Carded.	Combed.
6s & 8s	35 @36	40 @41
10s & 12s	36 @37	41 @42
14s	37 @38	42 @43
15s & 16s	38 @39	43 @44
18s & 20s	39 @40	44 @45
20s	40 @41	45 @46
24s	41 @42	46 @47
26s	42 @43	47 @49

COMBED SEA ISLAND.

	Single.	Two-ply.	Reverse twist thread- yarn.
12s	51 @52	— @—	53 @54
14s	52 @53	— @—	54 @55
16s	53 @54	— @—	55 @56
18s	54 @55	— @—	56 @57
20s	55 @57	— @—	58 @59
23s	56 @58	— @—	59 @60
28s	57 @59	— @—	60 @61
30s	58 @60	— @—	62 @63
40s	63 @65	65 @67	68 @69
60s	74 @76	76 @78	80 @81
70s	81 @83	83 @85	89 @90
80s	91 @93	93 @95	99 @1 05
90s	1 00@1 05	— @—	1 10@1 15
100s	1 10@1 15	1 20@1 25	1 15@1 25

Sea Island warps and skeins for mercerizing are worth 2 or 3 cents less than thread yarn.

The following quotations have been compiled in Philadelphia, New York and Providence.

SOUTHERN SINGLE SKEINS.

WARP TWIST.

6s & 8s 20	@20½	20s 22	@22½
10s 21	@21½	24s 23½	@24
12s 21½	@22	26s 24½	@25
14s 21½	@22	30s 27	@27½
16s 21½	@22	40s 34	@36

SOUTHERN TWO-PLY SKEINS.

2-8s —	@20	2-24s 26½	@27
2-10s 20	@21½	2-26s 28	@28½
2-12s 20½	@22	2-30s 30	@30½
2-14s 22	@22½	2-40s 39	@40
2-16s —	@23	2-50s —	@47
2-20s —	@23½	2-60s —	@54

SOUTHERN SINGLE WARPS.

10s 20	@21	24s 23½	@24
12s 20½	@21	26s 24½	@25
14s 20½	@21½	30s 27	@27½
16s 21½	@22	40s 35½	@36
20s 22½	@23		

SOUTHERN TWO-PLY WARPS.

2-8s —	@21	2-24s —	@27½
2-10s —	@21	2-26s —	@28½
2-12s —	@22½	2-30s 29½	@30
2-14s 23	@23½	2-40s 39	@40
2-16s 23½	@24	2-50s —	@47
2-20s 24½	@25	2-60s 54	@56

3-8s hard twist on tubes, 19@20 cts.; 3-8s skein and 4-8s skein, 19@20 cts.; 2-10s and 2-12s slack, 21 cents.

SOUTHERN CONE (FRAME SPUN) YARNS.

6s —	@20	20s 22½	@—
8s —	@20½	22s 23	@—
10s 20	@20½	24s —	@23½
12s —	@20½	24s Extra. —	@24½
14s —	@21	26s 24½	@25
16s —	@21½	30s 26	@27
18s —	@21½	40s —	@35

BLACK AND WHITE D. & T. SKEINS.

(All prices nominal.)

(Carded.)

2-20s 40	@41	2-30s 42	@43
2-24s 40	@41	2-40s 49	@50
2-26s 41	@42		

Staple Combinations.

8—30s 38	@39	20—40s —	@46
10—30s 38	@39	20—60s —	@54
14—16s —	@40	16—80s —	@59
16—30s 40	@41	16—120s —	@70

Jack spools, 2 cts. more; colors, 2½@4 cts. more than black and white.

BLENDED BLACK AND WHITE SKEINS.

2-16s 42½	@44½	2-26s 45½	@47½
2-20s 43½	@45½	2-30s 46	@48
2-24s 44½	@46½	2-40s 53	@55

For 25 per cent. blend, 2c. less; for 75 per cent. blends, 2c. more.

EASTERN PEELERS AND EGYPTIANS.

(Cones or tubes.)

Combed Peeler.		Combed Egyptian.	
2-20s 40	@41	2-20s 42	@46
2-24s 41	@42	2-24s 43	@47
2-28s 43	@44	2-28s 45	@50
2-30s 44	@46	2-30s 47	@52
2-34s 47	@48	2-34s 49	@53
2-36s 48	@49	2-36s 50	@54
2-38s 50	@51	2-38s 52	@56
2-40s 49	@51	2-40s 58	@59
2-50s 57	@58	2-50s 67	@69
2-60s 64	@67	2-60s 77	@78
2-70s 72	@74	2-70s 87	@88
2-80s 79	@82	2-80s 97	@98

CARDED PEELER CONES.

10s 22½	@23	24s 28	@29
12s 23	@24	26s 29	@30
14s 24	@25	28s 30½	@31½
16s 25	@26	30s 32	@33
18s 25½	@26½	32s 33	@34
20s 26	@27	34s 34	@35
22s 27	@28		

CARDED SHUTTLE COPS.

8s —	@21	26s —	@27½
10s —	@21½	28s —	@29
12s —	@22	30s —	@30
14s —	@22½	32s —	@31
16s —	@23	34s —	@21
18s —	@23½	36s —	@33
20s —	@24	38s —	@35
22s —	@24½	40s —	@36

SOUTHERN COMBED SEA ISLAND.

WARPS AND SKEINS.

2-20s —	@54	2-60s 72	@73
2-30s —	@56	2-70s —	@89
2-36s —	@58	2-80s 86	@88
2-40s —	@60	2-100s —	@1 02
2-50s 63	@64		

SOUTHERN COMBED PEELER.

WARPS, SKEINS AND CONES.

2-30s —	@42	2-60s 62	@64
2-36s —	@44	2-70s 69	@70
2-40s 44	@45	2-80s 75	@78
2-50s 54	@55	2-100s 94	@95

SINGLES.

30s —	@35	60s 60	@61
40s —	@43	70s 66	@67
50s —	@54	80s 72	@73

MERCERIZED COMBED PEELER YARNS ON CONES (UNGASSED).

Southern Yarns,		Eastern Yarns.	
2-20s —	@50	2-20s —	@53
2-30s 53	@56	2-30s 54	@58
2-36s 55	@57	2-36s 54	@59
2-40s —	@58	2-40s 61	@65
2-44s 60	@61	2-44s 66	@68
2-50s 64	@66	2-50s 70	@75
2-60s 74	@76	2-60s 82	@85
2-70s 84	@86	2-70s —	@90
2-80s 93	@95	2-80s 1 00	@1 06
		2-100s 1 30	@1 45

Extra cost for gassing approximate: 30s and below, 4c.; 30s to 40s, 3½c.; 40s to 50s, 5½c.; 50s to 60s, 6c.; 60s to 70s, 7c.; 70s to 80s, 8c.; 80s to 100s, 11c.

Less cost for skeins: 20s and below, 3c.; 20s to 30s, 4c.; 30s to 40s, 4½c.; 40s to 50s, 5c.; 50s to 60s, 6c.; 60s to 70s, 7c.; 70s to 80s, 8c.; 80s to 100s, 11c.

YARN MARKETS—COTTON—Continued

YARN DEMAND SMALL BUT PRICES LITTLE CHANGED

Majority of Spinners Continue Independent Attitude With Various Reports of Sold-Up Condition

Business transactions during the week have not been of large volume and as a matter of fact the situation can be characterized as quieter than for some time. Despite this fact, however, little actual weakness has developed, although in certain instances spinners are more amenable to offers and are more willing to trade. The difference in quotations from certain reported figures, while considerable, is misleading, as the top of the market has never been reached, except in a retail way and outside quotations should not be regarded as characteristic of the situation. It is true that certain mills report they are sold up for several months to come at figures higher than any which local trade claim they have been able to secure. When competitors, however, are willing to sell at materially lower figures it casts some doubt upon the reliability of these assertions. There is no basis of calculation establishing the difference between different counts. In other words, little relation to the actual cost or the comparative increase per count is observable to-day, the market being dependent upon supply and demand for the establishment of prices.

CHANGE FROM SINGLE WARPS

An illustration of this disparity in quotations is noticeable in the case of single and two-ply warps. There has been a distinct reversion of demand from single to ply yarns, brought about largely by the demand of towel manufacturers for the latter quality. Samples of heavier goods have been accepted by buyers as substitutes for lighter farics previously made, with the consequence that this character of goods has practically supplanted the earlier type. The dyestuff situation, naturally, has played a part in bringing about this change, as it is more economical to dye twisted yarns, which absorb a less amount per yard than single. Possibly with the return of normal conditions in the dye trade, a certain amount of demand will spring up for single warps. At present, however, there seems to be little chance of such a move.

SHIPMENTS DELAYED

Sellers are complaining of delayed receipt of orders placed at lower prices, and, while one excuse and another are given, it is believed that the dominating factor causing such delay is the attempt on the part of spinners to deliver high-priced contracts to the detriment of those placed at low levels. Some extraordinary delays for which there seems to be little excuse are reported, sellers being obliged to supply their customers with high-priced yarn, trusting to the receipt of the cheaper contracts to reimburse them. Efforts to hasten deliveries seem unavailing. Also, requests for quotations are receiving little attention from the spinner, who is adopting a very independent attitude, based, evidently, on the belief that raw material costs are not going to show any radical drop, and that they can hold out for the maintenance of prices without liability of loss.

Demand for export continues in very limited compass. More or less inquiry is being received all the time for hosiery, duck and white yarns, but when quotations are received no answer comes back. One factor minimizing the possibility of business in this quarter is the request for colors in connection with twisted yarns, and these are almost impossible to secure, and when obtained cannot be guaranteed. This is particularly true of black yarns, deliveries of which on contract are very backward, while dyers will not guarantee shipment of any new orders within any specified period.

KNITTING YARNS IN STOCK

The evident cause for lack of demand for knitting yarns is the fact that the majority of knitters anticipated their requirements when the yarn market was at a lower level and are not obliged to make purchases at the present time. Fair stocks are said to be owned in the majority of instances and few manufacturers feel that they can pay to-day's level and secure a profit on their product. If it is necessary to increase the supply of yarn before the season is over, advances in knit goods would seem to be a virtual necessity. Such a course will be avoided as long as possible for fear of interference with demand.

FIRM CONDITIONS PREVAIL

Cotton Yarns Rule Strongly With Moderate Activity

PHILADELPHIA, Feb. 2.—Firm conditions still prevail on cotton yarns, although most factors report less trading this week. This is not surprising as it was not to be expected that the activity of previous weeks could be maintained forever. Inquiry for yarns is still reported by dealers; by many that it is satisfactory, but it has not been so easy to realize top prices. Spinners are still firm on their quotations, but it is said quite a few of them are willing to take all the business they can get on to-day's prices. Inquiry is reported to be of a general character still with both weaving and knitting mills showing interest in yarns. Dyestuffs continue to be more or less of a factor and more than one dealer has stated with a normal supply of dyes, the market might have risen to extreme levels.

Opinions as to the future course of yarns vary; several are disposed to regard yarn prices as at the top; but there are many who look for prices to be maintained. They point to bare shelves, with a demand for goods which mills find difficult to meet as rapidly as desired, and with money offered on a satisfactory basis, they argue there is everything in favor of maintained levels. Price of cotton in their mind cuts no figure; it all rests on the basis of the supply and demand ratio.

WEAVERS WELL ENGAGED

Men's wear and dress goods mills appear the best buyers of yarns in this market to-day. Orders with these mills keep them running to capacity, with a steady consumption of yarn which requires constant replenishing. Carpet mills are reported suffering with a scarcity of colors, under which they find it exceedingly difficult to operate. For this reason these yarns have been slow of late, and it is reported one house has been offering 16s two-ply skeins of good color at 21c., recognizing the position in which these mills are placed. Just how this will work out it is hard to say. Other lines appear to be in better position, and therefore continue operating along more active lines. Prices for two-ply warps are still holding firmly for nearby delivery, although future late deliveries are slightly below the other level. On 40s two-ply warps 39 to 41c. is reported, according to the yarn; 20s two-ply warps run from 24½ to 25c.; 30s two-ply are held at 30½ to 31c. for nearby delivery; 8s three-ply tubes and skeins are quiet at 18½ to

AMERICAN SILK SPINNING CO.
SPINNERS AND DYERS SPUN SILK YARNS
For Weaving, Knitting, etc. Cops, Cones, Tubes, Skeins, etc. Also SILK NOILS
ADMIRAL AND WHIPPLE STS. PROVIDENCE, R. I.

Paulson, Linkroum & Co.
COTTON YARNS
87-89 Leonard St., New York
PHILADELPHIA PROVIDENCE UTICA READING CHICAGO

TILLINGHAST-STILES CO. Cotton and Worsted Yarns
JESSE P. EDDY, Treas. PROVIDENCE, R. I.
HERX & EDDY Incorporated Cotton Yarns and Warps
113 WORTH ST., NEW YORK 441 BOURSE BUILDING, PHILADELPHIA

NOVELTY YARNS In cotton, silk and worsted, in many designs and colors
COTTON WARPS In gray and all colors, single or any ply, and cable cord
MACHINED—CARDED COTTON—COLORED
INDIAN ORCHARD COMPANY INDIAN ORCHARD, MASS.

MONUMENT MILLS, Housatonic, Mass.
HIGH GRADE COTTON YARNS, White, Colors, Bleached
On Beams, Jack-Spools, Cones, Skeins, and Chain Warps
FAST-BLACKS & COLORS { For Woolen Mills a Specialty } WE SELL DIRECT

THE J. R. MONTGOMERY CO., WINDSOR LOCKS, CONN.
Manufacturers of
MERCERIZED COTTON YARNS Give the high Silk-like luster
In Knit Goods and Woven Fabrics
NOVELTY YARNS Boucle, Bourette and Spirals in Cotton, Wool Worsted, Mohair and Silk
COTTON WARPS on Beams, Jacks Spools and Tubes in Fancy Twist, Colors and Printed

Solway Dyeing & Textile Co.
PAWTUCKET, R. I.
Dyers, Bleachers and Mercerizers of Cotton Yarns, Warps or Skeins
ABSOLUTELY FAST COLORS

J. J. KENYON MFG. CO., Manufacturers of SILK FINISH TAPES AND BRAIDS
GLAZED AND COLORED YARNS
ON SPOOLS, TUBES, CONES, ETC.
For Manufacturers' Use PAWTUCKET, R. I.

O. S. HAWES & BRO.
FALL RIVER, MASS.
COTTON YARNS ALL FORMS AND NUMBERS

DANA WARP MILLS
Cotton Yarn and Warps — carded and combed—white and colored—single and ply
Cotton Grain Bags
Westbrook, Me. SELL DIRECT

H. S. RICH & CO.
COTTON YARNS
150-152 SOUTH WATER ST.
PROVIDENCE, R. I.

ORSWELL MILLS FITCHBURG, MASS.
HIGH GRADE
COTTON YARNS
IN CHAIN WARPS, BALL WARPS, SKEINS, ON COPS, CONES AND TUBES
Carded or Combed Single or Twisted

J. B. Jamieson
77 Summer St., Boston
COTTON YARNS
of all descriptions
Correspondence Solicited

MERCERIZING
DYEING and BLEACHING SKEIN YARNS
WINDING CONES TUBES COPS
GERALD COOPER POMFRET ST PROVIDENCE, R. I.

CANNON YARNS

Uniform Yarns

Careful buyers recognize the importance of having their cotton yarns run uniformly. This is essential to profitable production, as it means uniform goods.

Cannon Yarns

have won their reputation as a safe yarn to use because they run uniformly as to grade and character.

Extra care is used in the selection of our cotton and purchases made when the choicest can be secured. This with expert spinning maintains a uniformly high grade yarn which insures true economy in manufacturing.

"From Spinner Direct to Manufacturer"

CANNON MILLS

PHILADELPHIA, PENNA.

NEW YORK BOSTON
READING, PA. AMSTERDAM, N. Y.

THE STANDARD OF VALUE & QUALITY

YARN MARKETS—COTTON—Continued

20c., according to quality, while 16s two-ply skeins general are held at 22½ to 23c., for white yarn with dark stock at 21½ to 22c. In single yarns demand is not so active; 20s single warps are reported going begging at 22½c. and quiet at 22c.; 14s single warps are being offered at 21; 12s shuttle cops run around 21c. for southern yarn.

CARDED YARNS DULL

Carded frame-spun yarns do not show any recent development in activity. Hosiery mills appear to be using more of the combed yarns, and up-state underwear mills, using the carded yarns, are said to be rather well covered for the present, and refusing to buy any additional lots of yarn on to-day's prices. Prices, therefore, are not so strong on these yarns, but they all depend on conditions. It is said 10s frame spun can be bought for nearby delivery at 19½ to 20c., with the market averaging 20 to 20½c.; however, high-grade yarns from mills well fixed with business are held at 21 and 21½c. On 24s from 24 to 24½c. is usually quoted, with limited trading of late; one lot sold at 23½c. for early delivery, and 22s sold at 22½c. On southern mule spun, 10s are held around 21c.

COMBED YARNS LEAD

Combed yarns continue their lofty position. Many mills are sold up well into the year, dealers are unable to offer any early deliveries, and have to place business offered them here and there wherever they can. In fact, combed yarns are the stiffest proposition on the market to-day. Ply yarns appear to be in better demand than single. On 18s single southern, 28½ to 30c. is reported; 30s at 34 to 35c. In two-ply yarns, 30s run from 39 to 40c.; 40s at 44 to 45c.; 50s at 54 to 55c. Ordinarily, dealers say there is a ½c. a number between these two counts, but to-day it is 1c.; 60s two-ply are held at 62 to 64c., with 70s at 69 to 70c. On Sea Island, 40s two-ply is quoted around 60c. Egyptian yarns are quiet at high prices.

PHILA. COTTON YARN NOTES

Many friends of T. Ashby Blythe, of R. A. Blythe, Inc., were glad to congratulate him on his recovery from recent severe illness. Mr. Blythe is one of the young veterans of the trade, and has a host of friends who were glad to welcome his return to active business.

S. F. Patterson, treasurer of the Roanoke Mills Co. and the Rosemary Manufacturing Co., Roanoke Rapids, N. C., was a visitor in this market this week. Mr. Patterson has been active at Washington lately as the representative of southern cotton manufacturers appearing before the Labor Committee of the House when it had under consideration the Child Labor Bill now before the House. He has invited the entire committee at the expense of the manufacturers to visit each and every mill in the South to see for themselves actual conditions.

Local dealers are disposed to criticize severely the action of a local house which offered a price below the idea of the buyer. In this case the manufacturer was willing to pay 29½c. for a good sized lot of 20s two-ply warps, when a salesman came along and quoted him 29c. This tended to scare the buyer into the belief prices were breaking, so he purchased only a small part of his original intention.

With artificial silk held at $3.50 a pound and natural at about $5, hosiery manufacturers say it is impossible to use the former in 25c. goods. Therefore mercerized yarns were required as a substitute, and the big demand forced prices up to a high level. Now they are becoming too high for the two-for-a-quarter goods, so it is expected lisle yarns will be utilized in their place. These yarns now are as high as mercerized yarns were a few weeks back. It is also said to be impossible to use combed yarns in 10c. hose, so that carded yarns have to be used instead.

COARSE YARNS EASIER

Combed and Fine Counts Unaffected by Cotton's Unsettledness

BOSTON, Feb. 2.—Even though the weakness of the raw material market has been partly eliminated, and may prove only temporary, it has checked demand and has caused quite a number of spinners to withdraw recent extreme quotations on coarse and medium count carded yarns; at least on nearly everything below 30s. However, the price ideas of a majority of spinners and dealers remain considerably above buyer's views and sales in this part of the market have ruled of small volume, excepting in a few instances where dealers or spinners have been willing to sell at bottom prices. This is about 19c. for 28s three-ply, 23½c. for 20s two-ply and 28c. for 26s two-ply skeins. Eastern spinners are also easier to deal with on carded weaving and hosiery yarns coarser than 30s but there is no trace of weakness upon combed and fine counts; in fact, the market upon anything spun from staple cotton is still tending upward, particularly on 60s and finer warps and skeins. On such yarns for delivery within the next two months the price is largely dependent upon the buyers' necessities, for the number of spinners who can handle such business are few. There is a steadily increasing demand from buyers who have been using imported yarns, and who now find their supply contracted and the question of forward deliveries rendered uncertain. Sea Islands and Egyptians of high grade are very strongly situated and best spinners are sold far ahead and are not anxious to accept additional contracts even at the high prices now prevailing. They are experiencing some difficulty in obtaining suitable grades of cotton even at top prices, and believe that much higher prices for yarn are possible.

COTTON VS. JUTE TWINE

Elements of Greater Serviceability in the Former

It is the general belief that twine made from hemp or jute is stronger than that of relative diameter made of cotton. This is a fact, if tensile strength alone is considered, but where the element of friction enters into the test, cotton has superior resisting qualities. It is claimed there are many instances where cotton twine could be advantageously substituted for jute, not only from a standpoint of better service, but with an economic saving.

It is a simple matter to determine the relative strength of the two fibers under conditions that involve friction. Interlock a piece of cotton twine with one of jute of the same relative size, and saw the two together until one breaks. It will almost invariably be the jute that gives first. The question of cheapness does not at first appeal to the buyer because of the higher price per pound asked for cotton twine, but, for example, a three-ply 8s of this material will render 2,240 yards per pound to 900 of a 16-pound jute twine, and give better service on the cross. This makes the cost per yard of cotton, which determines the actual cost of the twine, less.

We are Specialists

In Plain and Fancy Warps, Glazed Twine and Fire Hose Cord and in the Dyeing of Cotton Yarns.

Our Cotton Yarns

2s to 30s
Universal Wound

Are the Best That Are Made

Buy of the Mill with a standard reputation

Whittier Mills Co.
Chattahoochee, Ga.

COMBED PEELER YARNS
MORO WEBB
COTTON MILLS CO.
GASTONIA, N. C.

50s to 70s
SINGLE 2 and 3 PLY. WARPS, SKEINS, CONES, TUBES. WET or DRY TWIST

COTTON
WOOLEN
and
WORSTED
Y-A-R-N-S

GEORGE BUTTERWORTH
Successor to Crawshaw Wolfenden
2535 N. Broad St., Phila. Pa.

WANTED—COTTON YARNS, COMMISSION BASIS.

Wool Spun Yarns from Sweeps, Strips, etc., 2's to 8's singles and 2 ply on cones or tubes, also singles and 2 ply in skeins.

White Frame Spun or Mule Spun Cotton Yarns containing percentage of Strips, Fly, etc., straight white or off white, 6's to 10's hosiery twist, cones, 10/20,000 lbs. weekly.

20's to 30's Carded Peeler, frame spun, hosiery twist, on cones, large amounts.

Carded Peeler, frame spun, hosiery twist, cones in Silver, Jaeger, Light Blue, etc., 16's to 24's.

10,000 lbs. weekly 6's single mule or frame spun, soft twist, Carded Peeler, cones.

10,000 lbs. weekly wool spun White Cotton Backing Yarn, 6's/1, cones.

Correspondence desired.

CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

TEXTILE PATENTS

(*Continued from page 23*)

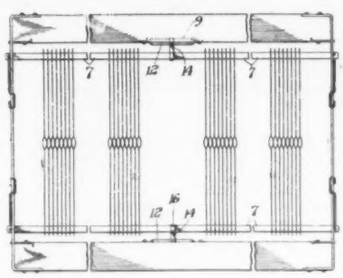
shown at a, in the illustration, leaves the delivery rollers b b' and runs to the spools or bobbins, c, in the direction shown. The small electromotors, d, are arranged along the straight path of the threads, a, in such a manner that the hollow shaft of these motors is situated within the direction of the traveling material. In this manner the material to be spun or twisted is guided within a tube or passage entirely closed all around so that an injuring of the motors by dirt or waste thrown off the thread is avoided. The lower end of the tube or passage is continued through the upper central part of the flier, e.

It is claimed that flyers electrically driven as described above, produce a uniform twisting operation. If material is delivered of variable thickness, the twist will be more approximately uniform than in previous arrangements. To secure the most uniform results it is necessary to shorten the free length, h, to a minimum. In other words, it is necessary to place the motor as near as possible to the delivery rollers. The device has recently been patented.

IMPROVED HEDDLE FRAME

Improved means for supporting heddle bars between their ends are provided by a recent invention. The device is simple and durable and permits the bars to be readily detached from the frame, prevents sidewise displacement of the heddle bars and reduces wear at the place of support.

The illustration shows a view of a heddle frame equipped with the device. The heddle supporting bars, 7, are



mounted in the usual manner. At the places where it is desired to support the bars between their ends the inner portions of the top and bottom bars are recessed as at 9. The auxiliary supporting bars, 12, are fastened within the recesses, 9, and extend in the same direction as the top and bottom bars a sufficient distance for the required amount of sidewise movement of the heddle bar supporting links.

The supporting links, 14, are mounted upon the supporting bars, 12, and comprise open-sided links formed of a strip of metal, the ends being bent over at both ends to form the link. This link is stronger than the supporting links generally used. At the same time it is of less thickness and forms no obstruction projecting beyond the face of the heddle frame to catch on the parts of adjoining frames.

Army Supply Bids Asked

The office of the Depot Quartermaster U. S. Army, Jeffersonville, Md., will receive bids until Feb. 14 for furnishing 5,000 yards canvas duck.

Bids will be received until Feb. 7 by the Philadelphia Quartermaster for furnishing 18,000 yards cotton tape.

Bids in triplicate will be received by the Quartermaster General, Washington, until 2 p. m., March 6, for furnishing cordage, canvas and burlap for delivery during the fiscal year 1917 at various depots.

THE CARDINAL MILLS
WEST POINT, MISS.
30s to 40s
CARDED PEELER WEAVING and KNITTING YARNS
Single and Two Ply Cones, Skeins, Tubes, Ball Warps
We Sell Direct Selling Office: GOLDSBORO, N. C.

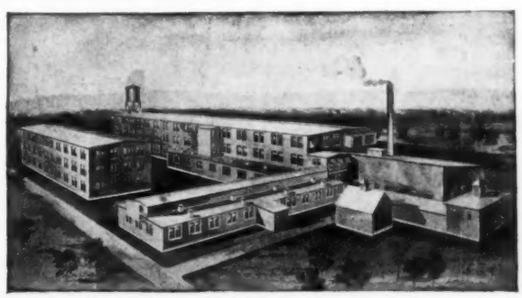
Crefeld Waste & Batting Co.
SAYLESVILLE, R. I.
Contractors For and Dealers in
COTTON MILL WASTES

1805 MASON MEANS MERIT 1915
WE BLEACH DYE AND MERCERIZE COTTON SKEINS AND WARPS
35,000 Pounds Daily Quilling—Tubing—Coning—Spooling
THE ROBERT D. MASON CO., Pawtucket, R. I.

P. B. McMANUS, Pres. and Treas. E. J. McCAUGHEY, Secy. and Mgr. JOHN McMANUS, V. Pres.

HOME BLEACH AND DYE WORKS, Inc.

Dyers, Bleachers and Mercerizers of Cotton Yarns
IN SKEIN AND WARP



Fast Colors a Specialty—Capacity 20 Tons per Day—Facilities for Winding on Paper Cop Tubes, Cones or Beams—High Quality Mercerizing

ESTABLISHED 1881 Office and Works at PAWTUCKET, R. I.

FOR SALE.

No. 6130, White Cotton Yarn Waste (shearings), about 5 to 7 tons for immediate shipment, SD/BL.

No. 5183, Willowed Egyptian Cotton Card Strips, 20 bales.

No. 6128, Bleached Cotton Linters, 5,000 lbs. prompt shipment, 3 carloads additional in about forty-five days.

No. 4924, Bleached Linters prepared for absorbent cotton, 20,000 lbs.

No. 5535, Absorbent Cotton, about 3 to 4 tons.

No. 5536, Absorbent Cotton, about 4 to 5 tons.

These two lots are packed in bales in bulk not in packages. Samples upon application.

CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

Philadelphia Warehouse Addition

A large addition is planned for the Webb Terminal Warehouse, Delaware Avenue and Walnut Streets. The building will afford 25,000 square feet additional floor space on each floor with nine stories, so that the combined floor space will be about 50,000 square feet on each floor when the building is completed. Brick and concrete and steel construction will be used throughout, making the entire structure absolutely fireproof. It thus offers the lowest fire insurance known there. The equipment will be complete and up-to-date in every particular, offering unusual facilities for handling large stocks of goods at lowest possible expense of time and labor. There will be a large freight elevator designed to carry a loaded truck up to the ninth floor.

United States Conditioning & Testing Co.
340 Hudson Street, New York, N. Y. 220 Ellison Street, Paterson, N. J.
Cotton, Wool and Silk Conditioning, Fabric Testing and Chemical Analyses

Odd Lots
—Wanted—
Cash Paid for Yarns in Any Quantities
GEORGE L. FALES 309 Dean St., Providence, R. I.

FOR SALE.

No. 5921 and No. 5922, about 8,000 lbs. Black and White and Brown and White mock twist Cotton Hosiery Yarn, cones, 7's or 8's, for delivery during the next sixty days.

No. 6143, about 3/4,000 lbs. of 60's single Combed Peeler, cones.

No. 4799, about 10,000 lbs. of Waste White Cotton Yarn, 5's/1, 72 inch reel, 10 ounce skeins.

No. 5918/5920, 2's to 5's single Waste Cotton Yarn, cones, hosiery twist, Dirty White, considerable amounts weekly.

No. 5916, 2's single soft twist White Cotton Yarn on tubes or cones, 20,000 lbs.

No. 5915, 8's/3 ply on tubes, 15,000 lbs.

No. 5913, 8's single hosiery twist, frame spun Waste White Cotton Yarn, cones, 40,000 lbs., deliverable about 1,200 lbs. weekly, commencing in March.

No. 5911, about 3,000 lbs. Bleached, 30's/2 ply, skeins.

No. 5912, about 8,000 lbs. Bleached, 24's/3 ply, skeins.

No. 4786, frame spun Carded Peeler, hosiery soft twist, cones, suitable for backing purposes for napping, 6's to 10's single, 10/20,000 lbs. monthly.

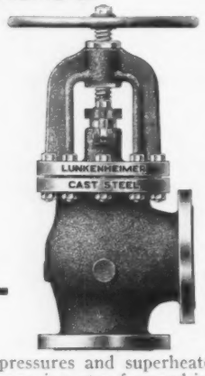
No. 5917, 8's/3 ply, 20/40,000 lbs. on tubes, excellent quality, White.

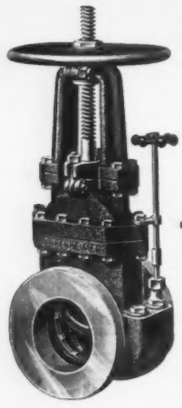
Samples upon application.

CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

LUNKENHEIMER Cast Steel Valves

For
Superheated Steam
and
High Pressures





Globe, Angle and Gate, with or without By-pass; Balanced Throttle, Non-return Safety Boiler Stop Valves, etc.

The use of high pressures and superheated steam, with a consequent increase in efficiency, is a step forward in Power Plant operation. The exacting requirements of this service necessitates the use of a material for the valves that is stronger than Bronze or Cast Iron. Lunkenheimer Cast Steel Valves are particularly adapted for these severe operating conditions.

LUNKENHEIMER CAST STEEL has a tensile strength of about 80,000 pounds with a safe elastic limit and excellent elongation, and contains less than .05 per cent of either phosphorus or sulphur.

Our steel valve castings are free from defects, they are annealed to relieve all internal stress and have that fine grained structure so essential to strong steel.

The materials used for the trimmings are especially adapted for high pressure and temperature service.

Ask your dealer for descriptive literature, or write us.

THE LUNKENHEIMER CO.
"QUALITY"
Largest Manufacturers of High Grade Engineering Specialties in the World.
CINCINNATI
New York Chicago Boston London
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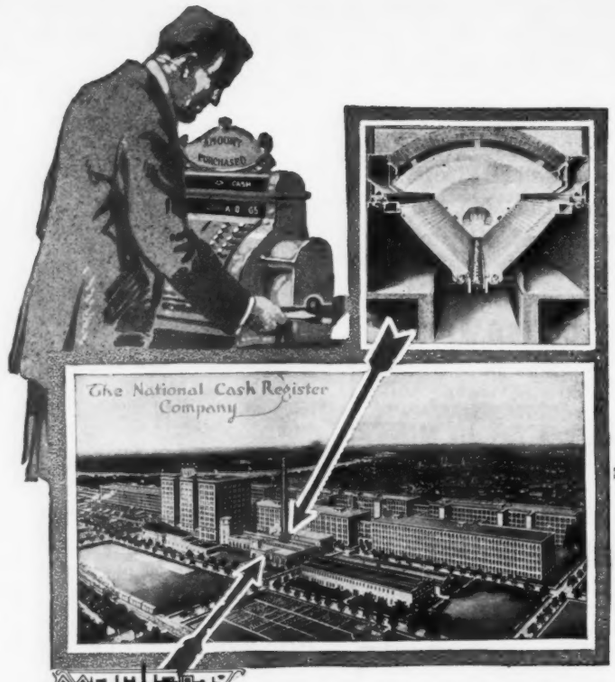


Prominent User Series Number 51

Murphy AUTOMATIC Furnace

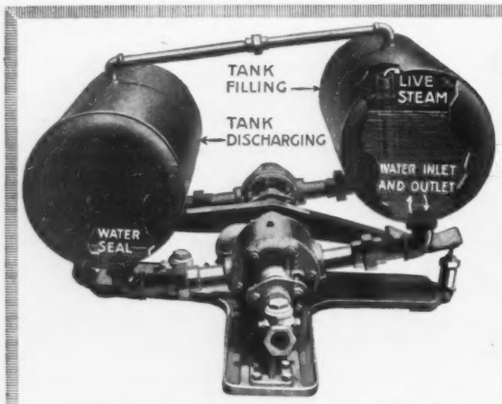
Let us outline a plan to fit conditions in your plant. Ask for Catalog "I"

IN THIS DAY of rising production costs and keen sales competition haphazard methods cannot endure.

Just as the development of the cash register has brought certainty and economy to the retail business where before there was chaos—so has the Murphy Automatic Furnace reduced to a science the handling of fuel.

If you think of **fuel consumption** in terms of Dollars and Cents—if you are interested in **more steam** for **less coal** write for complete details and efficiency data at once. Address—without obligation—

MURPHY IRON WORKS
DETROIT MICH. U. S. A. 268



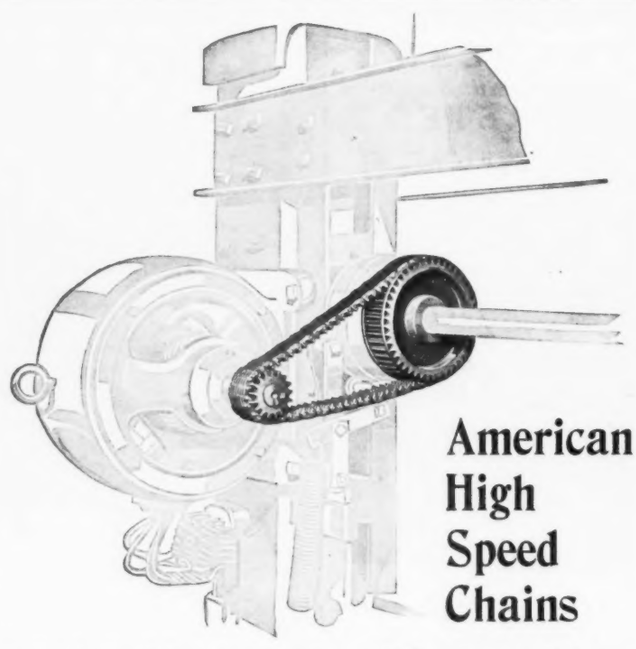
Continuous Steam Line Drainage and Boiler Feeding

YOU, as a practical operator of a manufacturing plant can fully appreciate what that means—
—thoroughly drained steam lines always.
—steady flow of pure, hot, feed water—minimizing internal strains and insuring smoother operation of the boiler,
because the

AMERICAN DUPLEX
Return Steam Trap

is constructed to meet modern demands of return trap service
—twin tanks or receivers, one filling while the other is discharging.
—rotary water and steam valves of simple design and positive in operation.
—roller bearings to carry the weight of the tanks, valves and fittings—reducing wear and tear in operation to a minimum.
—oil cushion buffers to receive the impact of the tanks in operation.
Write for particulars.

American Duplex Steam Trap Co., 119 Griswold St. Detroit, Mich.
101



American High Speed Chains

are adapted for cramped or difficult conditions.

They do not slip; can be used on shafts with short centers; give a positive and accurate speed ratio; no initial tension as in leather belts, thereby eliminating friction, increasing the life of the bearings.

Your inquiry will receive prompt attention. *Catalogue upon request.*

AMERICAN HIGH SPEED CHAIN CO.
INDIANAPOLIS, IND.

Power and Engineering

Power Generation and Transmission—Mill Construction

Fire Room versus Engine Room

By Albert Walton

IF anything goes amiss in the engine room the engine makes its troubles known immediately. If it be a leaky stuffing box the escaping steam does not conceal itself from either eyes or ears. A loose crosshead hammers itself into your consciousness whether you will or no. The boiler plant is your stoic. Leaky settings draw cold air into their very vitals in silence. Damper regulators get awry and there are no visible signs. Scale deposits on the tubes and there is no audible evidence thereof. It is not surprising, then, to find the management testing and indicating their engines at frequent intervals and grooming them down every time an opportunity presents itself, while they allow the boiler room to plod along untroubled by test or trial of any sort.

Yet the real skill required for plant economy finds its best field in the boiler house. The money for power purposes is spent there and the difference between proper and improper methods involves greater waste than the same degree of carelessness or ignorance in the engine room. An engine, once correctly adjusted, will stay in efficient trim with a minimum of attention for long periods of time. A boiler plant begins to run down the very day attention is relaxed.

PHYSICAL CONDITION OF PLANT

Boiler settings may leak to such an extent that as much cold air gets in at improper places as passes through the grates. The fireman may be doing his best and yet have to fire five per cent. more coal than should be necessary just from this one defect. As often as not we find damper-regulators incorrectly adjusted. It is almost impossible to tell by unaided observation whether this is the case or not. Even with our experience to guide us we do not pretend to pass on damper action until we have charted the travel of the regulator by means of an automatic time recorder.

The most usual fault here is the loss of the "partial stroke" feature. The damper is either open or shut and is continually passing from one position to the other. Thus, if full draft is one inch, on a water column, and only six-tenths of an inch is required, the only way a regulator of this sort can keep the pressure anywhere near constant is by remaining open wide six-tenths of the time and closed four-tenths. Properly regulated it will float for long periods at about the location which gives six-tenths of an inch of draft. In the "on and off" condition the firing cannot be done efficiently, no matter how careful the fireman may be.

INCOMPLETE COMBUSTION

If coal is added when the draft is shut off the volatile matter is distilled off with insufficient supply of air to burn it and passes up the chimney as black smoke and unburned gas and another source of loss is manifested. As the volatile part of the coal is the part containing the most heat units per pound, the importance of utilizing its heat is easily appreciated.

Many times the damper is, in addition, so arranged in the flue as to cause, when closed, not only zero draft but actual back pressure. When this is the case the boilers smoke at every leak and the room is filled with "coal gas" as long as the damper remains closed. This means that the air supply is practically completely cut off and the fires act exactly as do producer gas generators. Thus the pressure is kept down by the simple process of throwing away the heat value of the coal until the engine has taken out enough steam to let its pressure subside enough to open the damper and start burning the gas again. It is commonly supposed that this is a source of saving, since the coal is being "saved" while the draft is off. It should be remembered that coal burns largely as a gas and gases are evolved and wasted when the draft is reduced over an incandescent fire-bed. With the regulator properly adjusted and the damper properly set combustion is complete and uniform.

ADJUSTING DAMPER REGULATORS

We have also found dampers so set that they would swing past the open position and start to close again on the other side. Thus the firemen work under a continual handicap. In one plant this feature alone caused several shutdowns and had demoralized the whole department. The firemen were ready to quit and the engineer and superintendent were frantically seeking out the source of additional load which was causing the "overload" on the boilers. In fact we were summoned to locate the overload and started in by indicating the engines. We found, upon further investigation, that as the pressure went down and the damper opened, the draft increased regularly until a certain point and then began to decrease although the regulator was still moving toward the open position. With steam pressure down, the firemen were struggling on a reduced draft to get back their lost ground. Finally, by dint of exhaustive efforts they would get their fires up and regain the lost pressure and as the damper started to close, the draft increased instead of reducing and the pressure rose rapidly past the point desired.

Each action of the damper regulator showed on the steam pressure chart which thus became a series of saw-tooth curves repeated every five minutes with frequent deep depressions occurring at the times when the fires were not in condition to operate properly on the reduced draft. During the week-end an inspection was made inside the flue and the expected was found. Setting the dampers straight lifted a burden from the firemen and reconciled them to their lot in life once more.

At another mill the time recorder and draft charts revealed the fact that there was never over a tenth of an inch of draft. The fires were too sluggish to be efficient. Shutting down one boiler made the regulator operate and increased the draft just enough to effect a saving in coal.

FIRING SYSTEM

The process of letting the fireman evolve his own firing system, hoping that he will follow the line of least resistance and that this line will be that which necessitates his shovelling the minimum amount of coal, is defective in two particulars. First, it assumes that the fireman is sufficiently versed in the refinements of the business to evolve the best method and, second, that the line of least resistance involves firing the least amount of coal. The fireman is usually something less than a university graduate and neither knows nor cares anything about the laws of combustion. He is paid a fixed amount regardless of his efficiency. A fireman is supposed to be worth just so much a week by virtue of his being a fireman. If, by an extra exertion, he should save five per cent. of the coal, amounting to more than the value of his entire pay, he would not receive one cent more in his envelope at the end of the week. He realizes this before he starts work and his attitude is shaped by his knowledge. It is only to be expected, under the circumstances, that his own comfort will be his prime consideration.

It is a universal rule that firemen link their comfort to the idea that it is discomfort to be on their feet. They plan their firings, not to save coal, but to prolong their periods of sitting down between coaling operations. If firing every five minutes would require just the right amount of coal to be fired, and firing every thirty minutes would involve putting on five per cent. more, or firing every hour would cost ten per

(*Continued on page 49*)

Oxy-Acetylene Welding in Textile Mills

OXY-ACETYLENE welding torches in the hands of competent men are reclaiming thousands of dollars' worth of broken parts every month. One large mill which has been very successful in welding has saved from one hundred to one hundred and seventy-five dollars' worth of broken parts per week. A year ago these broken parts were being sold to junk dealers for a few cents a pound. Other mills are having similar experiences.

Previous to the service of the welding process broken teeth in metal gear wheels always meant a new casting, with substantial extra cost through delay to important operations, and time required for foundry work, oftentimes a new pattern likewise being required. Now the part may be reclaimed in a few hours, depending on the size, at but a fraction of the cost of replacement.

EXAMPLES OF BROKEN TOOTH REPAIRED BY WELDING

BUILDING TEETH ON BROKEN GEARS

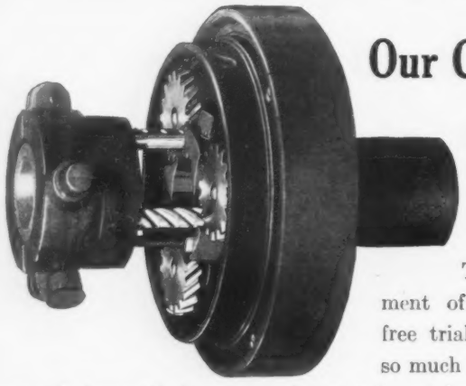
A gear repair of this sort is shown in the accompanying illustrations. This casting had two teeth broken out in the Harriman Hosiery Mills, Harriman, Tenn., and was given for oxy-acetylene welding as a test; the mill owners wished to be shown oxy-acetylene efficiency. The welding itself took 20 minutes, which at 35 cents per hour is 12 cents; 10 feet of oxygen and 6½ feet of acetylene, 2 cents each, total 33 cents for gas. Filler cost 20 cents and machinery $2.25; bringing the entire cost of the repair to $2.90.

A similar weld of much larger dimensions, reported some time ago, was on an 8-foot cast iron gear wheel with 78 teeth, of which 10 teeth were broken off. Each tooth was 10 inches long, 3 inches high and 3 inches thick. The missing ones were built on with the welding blowpipe at a cost of $116.64. A new casting would have cost approximately $400, and the old casting would have brought about $75 as scrap, making a net cost of $325. Thus the welding brought a saving of $208.36. An alternative from replacing with a new casting, under the older methods, would have been to tap the rim and set in pins, but this is not always satisfactory.

PROPER INSTRUCTION REQUIRED

The most essential feature in oxy-acetylene welding is to have good apparatus especially designed for the work at hand. The next important thing is proper instructions. Welding demands proper instructions just as blacksmithing or lathe work do and it is absolute folly to attempt to get the best results from welding by simply reading a set of printed instructions. During the last seven years the writer has instructed hundreds of men to use the welding torch and feels very strongly on this point. There are so many things which it is necessary for the beginner to know, often simple in themselves, but absolutely essential to success.

Many welders in working cast iron leave the surface as hard as flint. There is no necessity for this and one of the first things to be learned is how to leave the metal soft and free from blow holes. A beginner will often attempt to weld pieces that more experienced men would



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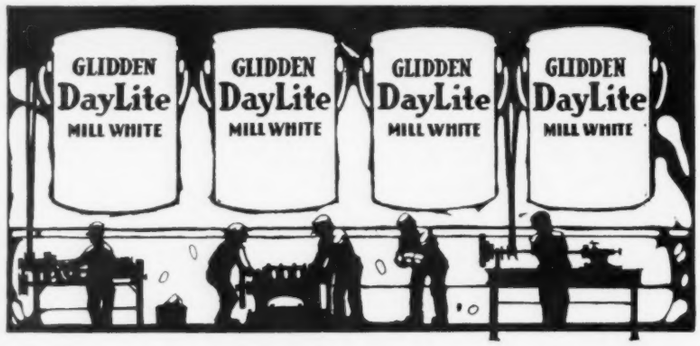

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POWER AND ENGINEERING—Continued

not touch. Experience might show that the expansion and contraction of the metal would be such that they would make a successful weld an exceedingly difficult proposition. Take for instance a large fly wheel or pulley with a broken spoke. Unless this is properly preheated and prepared it will surely break again when cooled.

WELDING LIGHT AND HEAVY SECTIONS

It is difficult to weld a light section to a very heavy one, due to the fact that the heavy piece absorbs the heat and conducts it away much more rapidly than the light piece. The usual result in such a case is to melt the light piece away and hardly heat the heavy one. Under such conditions it is an impossibility to make a perfect weld. The proper method of procedure is to direct the flame almost entirely on the heavy piece and when this begins to melt the light piece will join in almost automatically. These are but a few of the many points that come up and should be explained.

DESCRIPTION OF PROCESS

Careful preparation and exact alignment are most essential and will do more to produce good results than any other feature. Analyze what autogenous welding is and what it is desirous to accomplish. Oxygen and acetylene gases are combed in the proper proportions in the mixing chamber; they are then conducted through the tip and combustion takes place. The heat of the flame is so intense that it will fuse almost any material with which it comes in contact. Steel will boil at a temperature of 2000° F. This is what actually occurs in the oxy-acetylene flame and it is under the absolute control of the operator with a maximum of safety at all times.

The object is to melt the parts of metal which have been broken so as to join them together and make a solid homogenous piece. If the flame cannot reach the bottom of the break it is obvious that the parts cannot become heated to the fusion point. So the piece is prepared by cutting away the metal at the break at an angle of approximately 90° and then filling this gap up from the bottom with metal which is melted in from the welding or filler rod. In this manner the broken piece is rebuilt and reinforced so that it is actually stronger than it was originally.

A point that should be very carefully kept in mind at all times is the alignment. It is just as easy to weld a piece absolutely solid out of alignment as it is to weld it correctly, and in the preparation care should be taken to keep at least two places and if possible three places without cutting any of the metal away so that the finished piece will be in exactly the same alignment as it was before the break.

A very valuable adjunct for a welding equipment is a face plate designed for this class of work. This is a very heavy cast iron table with the face planed absolutely true and smooth, slotted and grooved to facilitate aligning the work. With these tables are usually supplied a set of V-blocks for such work as welding crank shafts. With such an arrangement one prominent mill has within the last six months welded over 150 loom crank shafts at an average cost of about $1 each. Of this number only two have failed.

TIME REQUIRED AND COST

Many mill parts can be repaired at a fraction of the cost of new parts and without the aggravating delays which are often caused by sending away for parts. Such parts as broken swords can be repaired in from 10 to 20 minutes at a cost of from 20 to 40 cents. Loom frames can be welded at a cost of 25 cents to $1. Lugs, etc., can be repaired at a cost of from 5 to 15 cents. Cams can be filled in on the worn places and teeth can be replaced in gears. To try to replate all of the broken parts that can be repaired would be like trying to catalogue every part in the mill.

FIRE PUMP REPAIRED

It is not only the little things that can be reclaimed. At one mill the writer repaired a Worthington underwriter, 18 x 10 x 12, duplex fire pump of 1,000 gallons per minute capacity which had the water end castings cracked at both ends. This pump was placed in position and the mill was literally built around it. In repairing this pump we saved the mill almost twice the amount that the welding apparatus cost. In another mill a number of boiler headers that had leaked steam for years and were a continued source of annoyance to the owners were welded. The steam saved in one year alone paid for the installation many times over. In fact the superintendent states that the coal

REPAIR TO LOOM CRANKSHAFT

consumption has been reduced almost 25 per cent. At another mill a larger pillar block of a 1,500 h. p. Corliss engine was welded by the writer which would have involved a heavy expense to replace and at the same time have caused a shut-down of the mill for several weeks.

The superintendent of a prominent mill recently stated that break-downs had no terrors for him. He had $20,000 worth of spare parts stored away for just such emergencies. The interest on this amount at 5 per cent. is $1,000. A first-class welding equipment, including all accessories, materials and instructions, can be purchased at less than $500, and with reasonable care will last for many years.

The illustration above shows a repair by welding process of a broken loom crankshaft.

FIRE VS. ENGINE ROOM

(*Continued from page* 45)

cent. more, the firemen would still choose, and invariably do choose, the greater amount of work with longer periods of rest between. Thus the method breaks down right at the start.

Disturbing a thick fire promotes clinkering. Soon a clinker layer forms which obstructs the draft and it becomes necessary to "slice" the fire to break it up. Instead of being content to break the obstruction enough to let the draft through, practically all firemen sit on the handle of the bar so as to raise the far end from the grate through to top of the bed. This turns the firebed upsidedown, lifting the ash from the grate up into the hottest part of the fire where the heat is above the fusing temperature of the ash. Almost at once the ash melts and forms a

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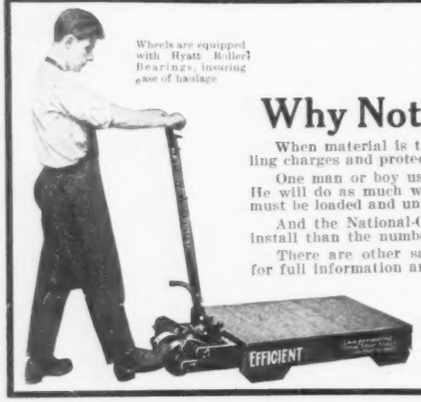

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And the National-Chapman Elevating Truck, including 100 wooden skids, costs infinitely less to install than the number of old fashioned trucks necessary to accomplish the same amount of work.

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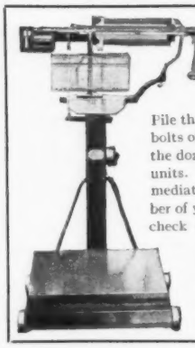

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No heavy spring—consequently no strain on any part.

A five pound weight placed on seat will hold flush and waste valve closed, and supply valve open against 200 pounds water pressure.

Will not waste water until seat is permitted to rise, flushes thoroughly, empties quickly, draining all parts above frost line. All water ways are 1¼ inch and unobstructed.

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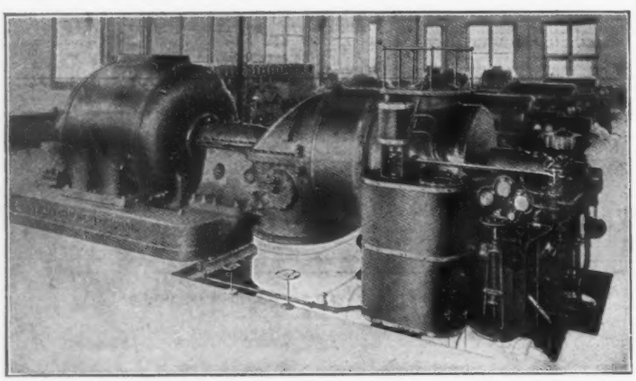

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STEAM TURBINE BUYERS

who have communicated with users of Allis-Chalmers Steam Turbines for information on their operating record have received some interesting replies.

HERE ARE SOME OF THEM:

"Our Turbine has not lost a moment's time."

"Allis-Chalmers Turbine Generator very satisfactory. Have run it at intervals eighteen hours per day."

"If we had to buy again, we would unhesitatingly buy an Allis-Chalmers Steam Turbine."

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"The three large Allis-Chalmers Turbines have stood up under adverse conditions of low-power factor, over-loads and rapid throwing on and off of loads."

Every installation of Allis-Chalmers Steam Turbines is a source from which this kind of information can always be obtained. Write to any user in your vicinity and you will find out why they are sold on their operating record.

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pasty clinker that effectually stops all draft at that section. The draft being forced elsewhere starts the formation of new hot spots and holes and the cycle repeats itself.

Nothing tells the story like the taking of frequent samples of flue gas for analysis. A sample drawn during the entire period from one firing to the next will give a perfect indication of the effectiveness of the system employed. Momentary samples drawn, one, three, five, seven, etc. minutes after firing will show how conditions change from minute to minute and indicate whether more frequent or less frequent coaling should be resorted to. Air leaks in the setting are shown clearly by the composition of the gases, although the presence of holes in the fire is made known by the same indication. The two can be easily distinguished by inspection of the fires before and after the time of sampling.

In any boiler plant certain conditions are fixed and certain ones are variable. In no two plants are the fixed conditions the same. Effective firing depends upon adjusting the variable conditions to the fixed conditions. Among the fixed conditions are the boiler design and proportions, steam load characteristics, maximum draft, feedwater system and intelligence of the operating force. Taking these as they are found it is very generally possible to improve results by altering the variable conditions, such as the periods of firing, action of the damper and regulator, method of placing the coal on the bed, amount of each charge, control of the air above and below the bed, kind of coal best suited to draft and grate and combustion space and many similar items.

Enough has been said to show that the boiler plant is worthy of the best supervision and that if this supervision is denied the plant, conditions will depart more and more from the ideal and with every change a slight loss will be added. Because the loss is invisible does not mean that it is not worth eliminating. At the very least the plant should be looked over once or twice every six months, just as the engines are indicated every quarter or half year, to assure the front office that conditions are what they should be. Only in this way can deterioration be detected before it has become costly.

A Monster Cooling System

AN important part of an engineering project that is being considered by the city of Fall River involves the installation of a monster cooling system for textile and other mills located along the Quequechan River from the Watuppa dam, located near the corner of Pleasant and Hartwell Streets, to the South Watuppa pond. The plan also involves the reclaiming of a large portion of the flats along this part of the Quequechan River. The whole proposition is really an enormous and unique drainage problem and the consulting engineers plan to solve it by building a multiple conduit having separate channels for hot water, surface water and cold water. The main conduit will follow closely the channel of the Quequechan River, between the extreme points mentioned, and among the mills to be served through drainage conduits are the following: Union Cotton Manufacturing Co., Massasoit Mfg. Co., Durfee Mills, Tecumseh Mills, Luther Mfg. Co., Granite Mills, Merchants' Mfg. Co., Richard Borden Mfg. Co., Davol Mills, Stafford Mills, Pilgrim Mills, Chace Mills, Hargraves Mills, Barnard Mfg. Co., Arkwright Mills, Davis Mills, Wampanoag Mills, Barnaby Mfg. Co., Parker Mills, Annawan Mills, Stevens Mfg. Co., Seaconnet Mills, Cornell Mills, and the Flint Mills

After years of agitation about the conditions along the Quequechan River and the supply of water from the Watuppa ponds, the State of Massachusetts in June, 1913, passed a special act providing in much detail for improving the Watuppa ponds and preserving the water and for abating nuisances along the Quequechan River.

In accordance with this act a special commission was chosen, and they in turn engaged Fay, Spofford & Thorndike, of Boston, as consulting engineers, to study and report upon the subject. Their report, a municipal volume, which has just been published, contains plans and recommendations of vital import to the mill interests of Fall River.

When the level of the river was raised about five feet by building the Watuppa dam nearly a century ago a large area of land was overflowed. From this area the mills have taken their water for condenser purposes, and into the same area they have returned it. As a result there are times during the summer when the lowest temperature of the water which can be drawn from the lower reaches of the river ranges from 90 to 100 degrees. The highest recorded temperature of the water just above the dam is 120 degrees on September 22, 1909. Temperatures taken at the outlets of the discharges from the mill condensers show many readings from 120 to 130 degrees, and a maximum reading of 142 degrees.

At the present time the mills above the dam when running to full capacity develop a total of about 55,000 horsepower, and consume about 90 cubic feet of water per second, or nearly 30,000,000 gallons per working day, principally for condenser purposes. The present flow in the Quequechan River is extremely variable, ranging from about 5,000,000 gallons in 24 hours, when the Watuppa ponds are low, to as high as 160,000,000 gallons in 24 hours during flood discharge. By developing additional storage in the South pond (through provision for drawing the pond down to a depth of 8 feet, where 4½ feet is the maximum allowable draft to-day) water can be stored during the wet months for use in dry months so as to equalize the flow throughout the year. Under these conditions it will be possible to deliver 20,000,000 gallons down the Quequechan River for every working day.

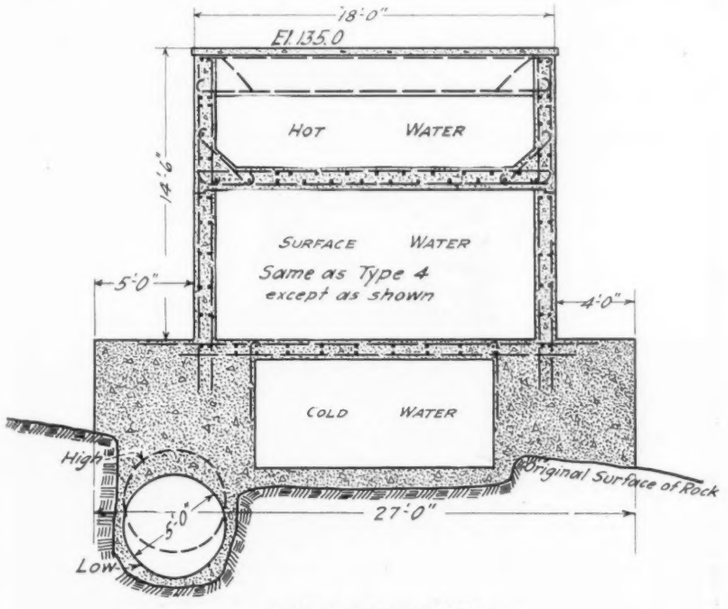
The maximum of 30,000,000 gallons per day, above mentioned as being required for the condensers, is obviously used over and over again by the twenty-six plants along the upper reach of the river. As the daily flow of the stream may fall as low as 5,000,000 gallons per day, it will be seen that every drop of water flowing at such a time must pass through six condensers in its course from the outlet of the pond down the dam.

A unique form of conduit devised by the engineers, and proposed by the commission, is designed to supply cold water to the mills above the dam, and return the water discharged from the condensers into South pond to an amount two and a half times the maximum present daily consumption—that is, the conduit is designed to handle a 75,000,000-gallon daily water supply to these mills, where 30,000,000 gallons per day are now used. This is intended to provide for some increase in the present mills, and for developing the number of mills after the flats are filled.

The form of the multiple conduit designed by the engineers is shown in the accompanying illustration. This provides a cold water channel at the bottom, an ample area for the removal of surface water in the channel next above, and suitable area for the flow of hot water in a channel at the top. The hot water will be conducted to an oil separating basin, from which it will flow into a cooling basin, and then pass over a weir into the South pond, where it will mingle with the cooling waters, and eventually pass into the cold water intake, and thence again to the mills.

The estimated cost of the entire project is $2,942,505. It is estimated by the commission that an increased value of $800,000 will be given to the flats acquired by the city as the result of filling a portion thereof and rendering them available for sale. Their extent is 146 acres. They also figure to deduct $1,000,000 as the amount of benefits to be assessed "against all the property or estate which may be specially or peculiarly benefited by the construction of the canal and other work hereunder." This brings their estimate of the total net cost to the city of Fall River of the improvement to be provided at the outset to $1,142,505.

Although the act required positive action on the part of the City Council within thirty days after receipt of the report, further time for consideration will be given, and it is unlikely that final action will be taken for several weeks.



DETAIL OF MULTIPLE CONDUIT

Standardization of Power Plant Operating Costs

IN a paper read before the American Society of Mechanical Engineers, W. N. Polakow presented an interesting discussion on power plant costs.

EFFORTS TOWARD STANDARDIZATION

Urgent need of dependable measure for financial efficiency of operation, it was stated, prompted managers and owners to compare their operating cost data with those available from other plants. An attempt to form an opinion whether one's operation is as economical as possible by comparison with operating data from other plants whose equipment and service are more or less radically different would be absurd were it not for the want of a better method. Examples were presented of such typical effort to make use of cost data comparing monthly cost reports of seven stations whose equipments are widely different; no two of them use the same grade of coal; the arrangement of machinery requires in some cases double the number of attendants, supplying power for different uses, with consequent differences in characteristic of current, distribution of load and peaks during the day, etc. Under such circumstances, to say from those data that one is operating more efficiently than another is at least too presumptuous.

CLASSIFICATION OF EXPENSES

The author considers that all expenses in the course of power production fall into two main groups:

a Constant (within a certain range) for any output.

b Variable in some direct proportion with the output.

Expenses that are independent of volume of output are at the same time independent of each other and do not characterize the efficiency of processes performed in the power plant. Their effect on unit cost is represented by a parabolic curve decreasing with the increase of output. They are exemplified by interest or investment, depreciation, sinking fund, insurances, management, pay roll (in some cases), taxes, etc.

Expenses that vary with the output of the plant characterize, other conditions being constant, the efficiency of operation, and their elements stand together in dependent sequence. If represented graphically, they show very irregular shaped curves peculiar to each set of equipment. Unit cost has a general tendency to drop with increased output, as the efficiency of boilers, turbines, etc., tends to improve with increased load; yet as with higher degrees of overload the efficiency decreases, the unit cost rises. With further increase of load when an additional unit is started, the efficiency again begins to improve until their cumulative efficient capacity is exceeded, when the unit cost commences to increase again.

STANDARD COSTS

The principles of determining the standard cost of maintenance and upkeep of the plant and equipment are substantially the same; the method of study, however, is somewhat different. It involves a study of design and construction of all elements of equipment; minute records of their service and cost of maintenance may lead to a modifica-

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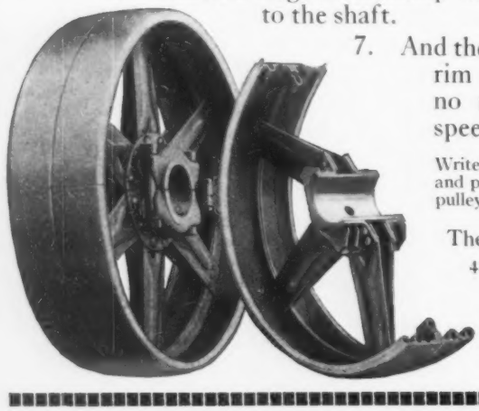

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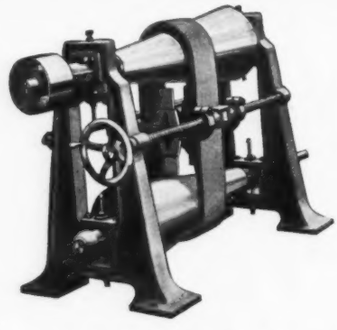

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tion of design, use of cheaper renewable parts, etc. Next, the standardization of supplies, beginning in the laboratory and followed by actual service tests, helps to determine not alone the purchase price, but the lowest service cost. Finally, time studies embracing schedules for inspection, routes for maintenance men, standardization of tools, motions, methods, etc, conclude the investigation. The criterion is, of course, not the wages of the employe, but freedom from accidents, breakdowns and the lowest attainable cost of upkeep per unit of the plant's output. It is evident that there may not be any theoretically certain standard of cost of maintenance, but an empirical standard thus developed is generally but a fraction of the best actual records of the past.

COMPARISON OF COSTS AND EFFICIENCIES

The essentials of knowledge gained through a comparison of actual cost in conjunction with the standard are:

a Relative supremacy of plants proper
b Relative advantages of managerial methods
c Relative extent of preventable losses
d Relative advantages of prices of materials, etc.

These cannot be found unless there is a comparable basis or scale for comparison, which is offered by standard costs determined for each plant individually, as at least ten main variations must be accounted for, as follows:

a Nature of load
b Character of service
c Conditions imposed by location
d Inherent efficiency of equipment
e Arrangement of equipment, floor plan, etc.
f Cost-efficiency of fuel and supplies
g Legal requirements
h Methods of operation
i Labor conditions
j Methods of compensation for service

Each of these variables being in its turn a product of a plurality of factors, it is manifestly impossible to state, without the aid of carefully worked out standard costs, that the economy of one plant or another is satisfactory, or where and how it can be bettered.

The author stated that only after the establishment of standards and ideal costs of production will cost accounting be of help to engineers, and only then can it be said that the generation of power is directed by the management and controlled by the engineer.

The Kincaid Stationary Stoker

WITH hand-firing, the difficulty is that when fresh fuel is supplied to the furnace, the air supply to that portion of the grate on which it is thrown is partially shut off. This

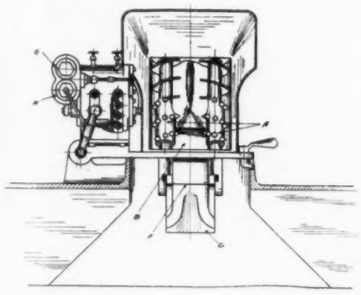

FIG. 1

creates the condition often referred to as "feast and famine," inasmuch as there is not sufficient air in the proximity of the fresh fuel to give the proper combination of the volatile gases distilled and oxygen, which is absolutely necessary to perfect combustion. At the same time, the draw of the stack forces more air than necessary through that portion of the grates on which there is no fresh fuel. This excess has a chilling effect on the fire box, lowering the temperature to a point below which it is possible to burn all the hydro-carbon gases, as well as the finely divided particles of carbon and thereby allowing them to pass up the stack in the form of smoke. Besides, it has a tendency to make blow holes in this uncovered portion of the fire.

DIFFICULTIES OVERCOME

These undesirable features are overcome with the Kincaid stationary stoker, manufactured by the Kincaid Stoker Co., Cincinnati, Ohio, as it distributes these small charges of coal evenly over the grate, covering every portion of it at the rate of 10 to 75 charges per minute, depending upon the requirements of the boiler. This builds up a fire which is light and spongy, as there is never a piece of green coal falling on green coal, and results in the air passing up through the fire evenly, thereby combining with the volatile gases in the proper proportions. When good coal is used there is no clinker formed, as the fire is never disturbed or puddled.

DESCRIPTION OF APPARATUS

The entire apparatus is hinged on a frame bolted to the boiler front and no change in setting or boiler front is required other than the removal of the fire door, and the attachment of a fire door frame. The stoker may easily be swung clear for cleaning the fire or for any other occasion that may arise.

Referring to Figs. 1 and 2, the coal is fed toward the furnace in regulated quantities by means of the worms and crusher rolls, A. The crusher rolls make it possible to use coal of any size from slack to 8-inch lumps, or even mixed sizes, such as run of mine, etc. The coal drops into a rectangular space B, directly in front of the ram C. The worms A work intermittently so that when the ram is delivering a blow against the coal in space B, no coal is being fed forward. When the ram is withdrawn for the next blow, the same motion actuates the worms through a predetermined portion of a revolution. Thus, the same quantity of coal is fed to the ram for each successive blow. This quantity may readily be changed

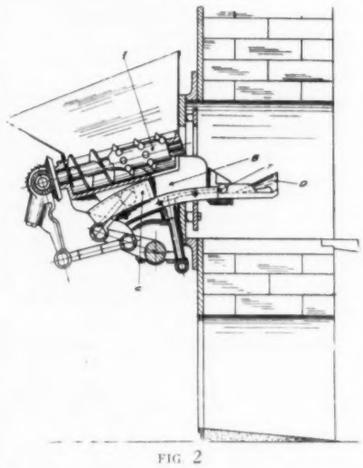

FIG. 2

by changing the throw of the ratchet arm which turns the worms.

DISTRIBUTION CONTROLLED

By means of a simple and easily adjusted throttling mechanism, the pressure of the steam admitted behind the piston which drives the ram is successively varied so that strokes or blows of four different intensities are secured. The first or weakest stroke delivers a charge of coal over the first or front quarter of the fuel bed; the second stroke delivers to the second quarter, and so on. The spreading of the coal is accomplished by means of the distributor plate D.

The exhaust from the ram cylinder is led to an $\frac{3}{8}$ x 3 inch rectangular nozzle at F. Events are so timed that a blast of exhaust steam emerges at F at the same instant that a flying charge of coal reaches the distributor plate. Consequently the steam catches, partly carries, and assists in spreading the coal over the various portions of the fuel bed. It will be noted that the intensity of the blasts of exhaust steam vary in the same manner and directly with the intensity of the stroke of the ram. The character of the spreading depends upon the contour of the distributor plate D, which is varied to suit furnaces of different shapes and proportions.

The fluctuations in the demand on the boiler are accommodated by varying the number of charges of coal thrown per minute and by varying the size of individual charges; the former is the principal method employed, while the latter is resorted to only in cases of extreme variation.

Light-Reflecting Value of White and Colored Paints

THE attention of engineers is being constantly called to the relative value of different types of artificial illuminants for interior space. Less attention has been given to the light-reflecting power of the interior surfaces where such illuminants are used. That the surface constitutes quite as important a factor as the type of illuminant is indicated by the tests described in a paper on the light reflecting value of white and colored paints, by Henry A. Gardner, assistant director, the Institute of Industrial Research, Washington, D. C., and published by the Educational Bureau of the Paint Manufacturers Association of the United States.

RESULTS OF TESTS

The most interesting of the results are those on flat, semi-gloss, and high gloss paints, all of which apparently have substantially the same illuminating value when prepared of the same pigment mixture with oils or varnishes of the same degree of color. This is an important development, since it allows the use of the type of paint best suited for the lighting equipment of a room: direct, semi-direct, indirect, etc. Although flat paints may retain their whiteness for a greater period of time, semi-gloss and gloss paints are preferred in many instances on account of their greater resistance to frequent washing.

MILL ILLUMINATION

The illumination of factories, railroad terminals, and department stores has been given great consideration of recent years; increased output, improved workmanship and a minimum of accidents having resulted in nearly every instance where better lighting systems have been installed. In such places, wall treatment as a means for conserving the illumination afforded by modern illuminants has generally been adopted. These advances have come as a result of practical observations, which show that the rays from powerful lights, falling upon dark brick or stone walls, give less light to a room than the rays from less powerful lights falling upon similar walls that have been painted in light colors with dust-resisting, washable paints. From the standpoint of economy it is of interest to record the fact that the monthly cost of illuminants for lighting dark-walled factories may be enormously reduced by the occasional application of such paints.

The customary process of treating factory walls is first to apply a coat of flat (matt surface) white paint and later to apply a coat of gloss white. This is the recommended treatment when the modern indirect or semi-indirect forms of lighting fixtures are used, since the gloss finish repels the lodgment of dust and may be most easily washed. For the ceilings, however, a flat or semi-gloss paint is better than a high gloss, since the former types distribute the light to better advantage. In factories where direct lighting fixtures are used with modern illuminants, or where even less modern forms of illumination are in evidence (swinging oil lamps, etc.), the flat or semi-gloss oil paints are also advisable, on account of their glare-preventing and light-diffusing properties.

The question has been raised as to whether colored paints should be advised for use where direct lighting fixtures are employed, since white is not always the most desirable color under some forms of very strong light. It is possible that in some factories paints having a slight greenish or other tint would be desirable, since a small amount of some colors may reduce the glare, but will not materially reduce the illumination. The wall tint to be used should, however, be studied under the particular form of light present in a room, since artificial illumination of some types exerts a marked action upon certain colored surfaces, giving them shades or tints which are entirely different from those observed in daylight or by other illuminants. The tint which is most pleasing under the light used, and of sufficient reflective value, should be adopted.

Making Machine and Belt Guards

HOW properly and permanently to guard equipment to prevent the proverbial accidents that sometimes happen in spite of the best of regulations is a live and somewhat complex problem, some factors of which must be worked out by each mill for itself. Considering the extensive use of fast running belts and machinery in textile plants, with the youth and lack of experience of many textile workers, an excellent showing is made among the various classes of industrial establishments. Long before there was a "safety first" movement textile manufacturers and textile machinery builders provided reasonable safety to operatives from humanitarian considerations.

The data compiled by insurance companies, accident prevention organizations and in connection with safety legislation shows that safety is also an economic consideration. Many guards and rearrangements to provide protection earn their cost every year on account of the close relation of safety to production. Other protective appliances which seem to have no direct productive earning power may prevent an accident that would demoralize a room for days or weeks. Recognition of these economic advantages has made safety work a permanent factor in manufacturing. Astute employers regard it is a good investment and give more than perfunctory attention to legislative and insurance requirements.

OPEN GUARDS DESIRABLE

In textile mills the desirability of open guards is generally acknowledged and

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"I believe that about 4 gallons of water are discharged from one head per hour. One head will safely humidify 40,000 cu. ft. of air in one room, and yield about 65% Humidity.

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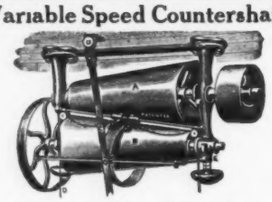

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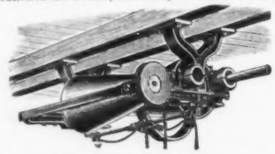

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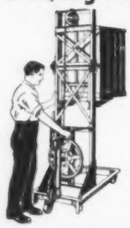

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A TURBO CONOIDAL FAN INSTALLATION

One of the largest recent installations of underfeed stokers consists of 32 water tube boilers aranged in two batteries of 16 each. The boilers have a normal rating of 400 h. p., and are fitted with underfeed stokers, for which the air is supplied from 16 forced draft blowers in the basement. Eight fans supply air to each battery of boilers, the fans discharging into two main trunk lines, the arrangement and design of which may be seen in the illustrations, Fig. 1 and 2. The fans are turbine driven and have angular up-discharge, one fan of each pair delivering air into the main duct beneath one battery of boilers, and the other fan to the other battery, which makes it possible for any one of eight fans to supply air to any one of 16 boilers. The turbines are mounted betwen the two fans and drive from each end of the shaft. Steam pressure is 200 pounds, and the speed is throttle controlled. In order to insure each fan carrying its share of the load, all of the units are operated as nearly as possible at the same speeds, and dampers in the branch connections make it impossible for the air to blow back through the fans which are not running.

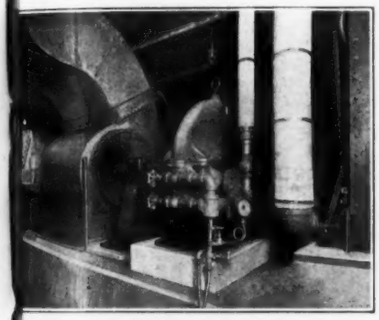


FIG. 1

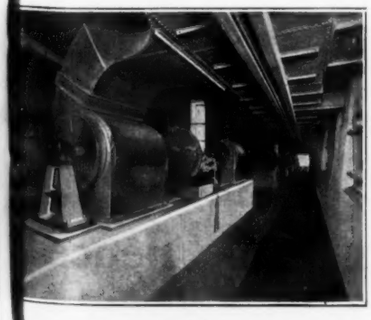


FIG. 2

A feature which is of special interest is the design of the fans for a large air volume and at static pressures up to 6 inches at speeds suitable for direct connection to turbines. The maximum speed of these blowers is approximately 2,400 r.p.m., and this presents a problem for the fan designer, first to provide ample strength for continuous operation, and second to obtained good efficiency at high speed. The first requisite is taken care of by details of construction not ordinarily seen in blower work. The bearings are mounted on heavy independent pedestals, are wedge adjusting for vertical alignment, and are of the ball and socket type with machined spherical surfaces. In addition they are fitted with special oil channels and with felt collars so as to prevent the high velocity of air passing over the bearings from drawing out the soil. Substantial thrust collars are inclosed within the bearing shell. The shafts are heavy steel forgings much larger through the fan than in the bearings.

The fan wheels, of which there are two in each housing, are of the type developed for this work and known as "Turbo Conoidal." The blades are curved forward at the inlet edge to pick up the air without shock and at the outer edge are turned backwards so as to permit high speed operation. To this double curvature is due a great part of the high economy. The shape of the Conoidal blade, which is approximately twice as great in radial depth at the back as the inlet edge, also adds greatly to the strength; these blades are die formed and riveted to thick steel back plate, while the inlet flange is equally heavy and is braced by stay-rods from the hub casting. As the greatest strain on the wheel is due to rapid acceleration of speed and not to centrifugal action, the stay-rods are attached to the hub tangentially and carry the strains due to rapid increase and decrease of speed.

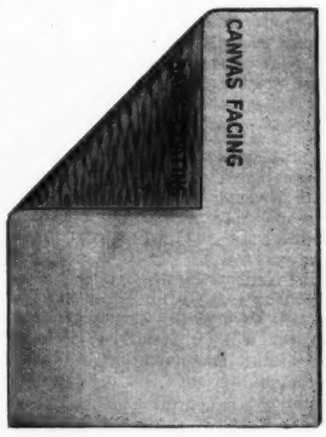
The forced draft blowers were furnished by the Buffalo Forge Company and are driven by Westinghouse turbines, while the stokers are Combustion Engineering Co.'s Type "E."

WATERPROOF COVERING FOR CEILINGS

A new use was found for a standard waterproof canvas roofing in the modern new dyehouse of the Goodall Worsted Co., at Sanford, Me. It was found desirable to cover the ceiling of the dyehouse with a material that would prevent the moisture which continually settles on the ceiling from going through to the floor above, which is used for purposes requiring dry conditions. Furthermore, moisture rots the ceiling in time and it was desired to prevent this. The management of the Goodall Worsted Co. decided to investigate Special Paradux Rex canvas roofing which is largely used for piazza roofs, decks and similar purposes and a trial order was sent to the Flintkote Mfg. Co., 88 Pearl Street, Boston Mass., for 30 squares. The material proved satisfactory in its new capacity and numerous repeat orders have been received by the manufacturers.

The material consists of a strong, closely woven canvas, the under side of which has been waterproofed by applying to it a rubbery, elastic coating of vegetable stearine gum which will not become brittle. This coating is attached to the fibers of the canvas in such a way that it cannot be separated from them. Because of this waterproof coating it does not have to be laid in white lead, paint or beeswax, which is necessary in laying plain canvas. This means a considerable saving in time and labor. Its unusual width, 60 inches, makes it more desirable and a roof can be laid with a very few laps.

The canvas side is laid outward and as soon as laid it should be painted with two coats of good lead and oil paint of any desired color. The first coat must be quick drying. The material may be laid by the regular men employed by the mill. Fourteen-ounce flat-head copper or galvanized iron tacks are used, which can be secured at any hardware store. About 1⅛ pounds of copper or 1½ pounds of galvanized iron tacks are required to lay 100 square feet. The tacks should be driven ½ to ⅓ of an inch apart and not over ¼ inch from the edge of the sheet. No cement is required.



WATERPROOFED CANVAS COVERING

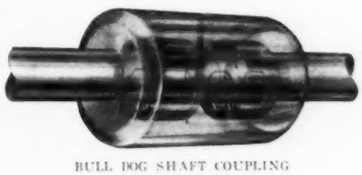
The material will lie perfectly flat when applied according to instructions, and is guaranteed for ten years. It is put up in rolls 60 inches wide, 21½ feet long, containing 107½ square feet, which is enough to cover 100 square feet with 7½ square feet extra for laps and butts. It weighs 21 pounds per roll.

Conditions at the Sanford mills are general in dyehouses, bleacheries and wet finishing rooms and the new use for Paradux canvas developed by the Goodall Worsted Co., is an interesting kind for preventing moisture from going through to the floor above and also for preserving the ceiling.

SHAFT COUPLINGS

The shaft coupling seems at first glance a comparatively unimportant, even perhaps trifling detail of plant equipment, and it is obvious that it actually does represent a small part of the cost of a completely equipped line shaft. But in spite of its small size and comparative low cost, it assumes great importance in the eyes of owners and managers who have had hundreds of men idle on account of broken or detached shafting which could not be put into service again quickly.

It becomes vital also when the plant owner is subject to liability suits on account of accidents due to projecting set screws, bolts or other parts of shaft couplings which may become loose. When a shaft breaks, production stops on all machines driven from that shaft, but labor expense goes on remorselessly with every tick of the clock.



BULL DOG SHAFT COUPLING

A shaft coupling can be put in place as easily and quickly as is shown in the illustration. It provides means for making shafting ready for immediate use when it breaks or becomes detached, cutting the time required to put broken shafts in running order again to about three minutes.

The Bull Dog shaft coupling is a single unit; a metal cylinder which slips over the ends of the shafting and automatically grips so hard that slipping is impossible. It is simple, easily put in place, there are no keys, no keyways, no bolts, wrenches, screws or parts to work loose in service to mar the shaft or catch in clothing. Within the metal cylinder are two eccentric chambers, each of which contains a pair of cylindrical steel locking rollers mounted in a flexible wire cage. The shafts to be connected are slipped into the ends of the metal cylinder and when this cylinder is rotated a part of a turn by means of a pin slipped into a hole provided for the purpose, the locking rollers automatically roll up into the smallest part of the eccentric chamber, thus firmly locking the shafts. It is thus obvious that the coupling can be very easily attached without any tools whatever, the bare hands being quite sufficient.

Bull Dog safety set collars are made on the same principles as the shaft couplings and have the same general advantages of attachment, removal and positive safety in service. They have the same grip on the shaft, yet there are no set screws, wedges or other dangerous parts to mar the shaft or catch in clothing. They are quickly attached and as quickly removed, but cannot work loose because any friction with shaft hangers or pulleys simply serves to tighten the grip. The only tools needed are the bare hands.

Business Literature

MACHINE AND BELT GUARDS: The Harrington & King Perforating Co., Chicago, Ill.

A 16-page booklet devoted to describing and illustrating the uses of perforated metal in making guards for machinery and belts. There are many useful suggestions of benefit to those who have machinery requiring guards. Perforated steel is a strong, easily worked material of comparatively low cost which has many advantages for guards made in the mill to fit the mill's requirements.

ELECTRIC ARC WELDING. The Lincoln Electric Co., Cleveland, O.

A 24-page booklet explaining the application of electricity in welding with numerous illustrations of the process. The only purpose of electricity in welding is to supply heat. A thorough understanding of this fact will do away with most of the mystery with which this subject has been surrounded. The advantages claimed for the electric arc are the production of greater heat at lower cost, and convenience in applying this heat where it is needed for welding purposes. The booklet contains particulars of the construction of the Lincoln arc welder and of the service of the Lincoln Electric Company.

"CLIPPER" CLIPPINGS, Clipper Belt Lacer Co., Grand Rapids, Mich.

The January issue of this publication, which is devoted to belting efficiency, gives general information for overseers, superintendents and others interested in the care of belts. A review is also given of the company's profit sharing plan and announcement is made of a new group insurance plan for the benefit of all employes of the company.

TURNER FOR CONCRETE; Turner Construction Co., 11 Broadway, New York.

A handsome booklet describing the Turner Construction Co.'s organization and work and giving numerous illustrations of notable buildings constructed by this concern. Prominent among the buildings constructed for textile mills are those of the Naumkeag Steam Cotton Co., at Salem, and the warehouse of the Nashua (N. H.) Mfg. Co. The

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FROST-PROOF CLOSET

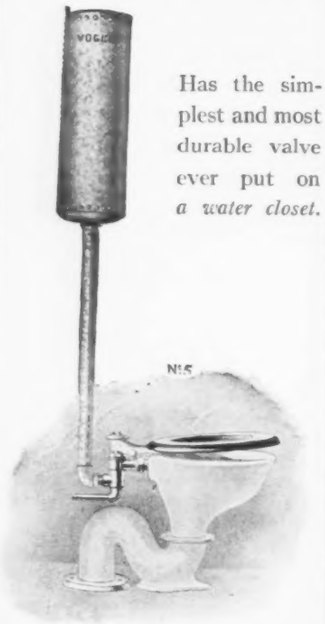
The most durable and economical water closet *for mill villages.*

Over 150,000 in use in all climates.

Requires no pit. Simplest water closet made.

No. 1.

VOGEL No. 5 FACTORY CLOSET



Has the simplest and most durable valve ever put on *a water closet.*

JOSEPH A. VOGEL CO.
WILMINGTON, DEL.

Turner Construction Co. has executed 539 contracts, involving over $35,000,000, in fourteen years, without a single penalty for failure to complete on time. They have never failed for any reason to carry out a contract. It is worthy of mention that 46 per cent. of the company's work has been repeat orders, 40 per cent. has been on cost-plus-percentage contracts for which an audit showed that the actual costs averaged 10 per cent. under the estimated costs. Twelve per cent. of the work has required some winter construction, but in spite of severe weather encountered, every contract has progressed steadily to completion, on time.

1915 "National Electrical Code." Regulations of the National Board of Fire Underwriters for Electric Wiring and Apparatus, as Recommended by the National Fire Protection Association.

"The National Electrical Code" is revised every two years. The next revision will be in 1917. Copies of these standards will be furnished electrical departments, manufacturing concerns, associations, societies and institutes on application.

Series Luminous Arc Lamps (Pendent Type); General Electric Co., Schenectady, N. Y.

A 15-page booklet describing and illustrating the pendent series luminous arc lamps which are now in actual service in hundreds of the principal cities and towns throughout the country. The remarkable popularity of this type of lamp is due to the quality, quantity and steadiness of illumination which it gives, combined with reliability and low maintenance cost.

Powell Valves; the Wm. Powell Co., Cincinnati, O.

This is a 20-page booklet describing the "White Star Valve," and briefly discussing the function of these valves, illustrating in section the several types made. The booklet contains full information as to construction, operation and prices. Copies may be had on application to the Wm. Powell Co.

Production of Egyptian Cotton in the United States, Bulletin No. 332, issued by the United States Department of Agriculture.

This bulletin shows how Egyptian cotton production became established in the Southwest as a result of community action, to describe the present status of the industry, and to give the reasons for encouraging the growing of this type of cotton in the United States. Attention is also directed to the conditions which appear to be indispensable to its successful commercial production in this country. It is believed that Egyptian cotton cannot be profitably grown except under irrigation and in the absence of the boll weevil. This would exclude it from consideration in any portion of what is generally known as the cotton belt.

The principle of community action in cotton production implies the growing of only one variety, the variety selected being that which is best adapted to the physical and economic conditions of the locality. In no other way is it possible to maintain a supply of pure seed and to market year after year a uniform high grade product. These objects can be attained only by effective co-operation on the part of the growers. The lesson taught by this successful application of the community principle should make the present publication interesting to many who are engaged in growing, selling or manufacturing cotton, even though they may not be concerned with the special subject of Egyptian cotton production.

MAN HURT - - -
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- - - FIRST AID?

The Progressive Mill Owner and Manufacturer FINDS IT DOESN'T PAY TO TAKE CHANCES

An Ideal Bernstein "First Aid" Equipment.

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Well Made—Efficient—Inexpensive—Is Helping to Solve This Problem for Others.

WHY NOT YOURS?

Let us tell you how other manufacturers are making their employees 100% efficient—Are not taking any chances of liability by careless treatment of minor injuries to employees—Are prepared to treat injuries where a few minutes may mean life or death—Are creating a spirit of good will among their workers

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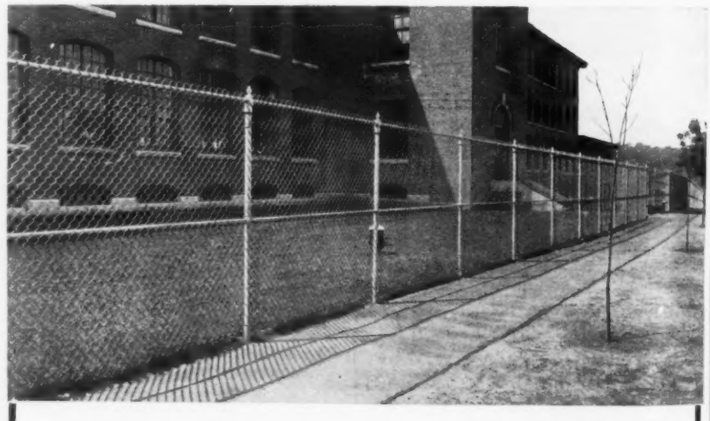
For Thirty Years "Just a Little Bit Better."



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from unwelcome trespassers and possible danger by surrounding them with a substantial fire-and-thief-proof fence.

Wright's Chain Link Fence

will protect and enhance the appearance of your buildings and let in the light. Made of strong steel wires, heavily galvanized to prevent rust. Built to stand erect for years. Strong steel posts set in cement make it proof against pressure and storms—keep out intruders. Varied styles, heights and sizes make it appropriate for Recreation Grounds, Parks, Cemeteries and all large enclosures.

Ask your dealer about Excelsior Rust Proof and Excelsior Iron Fences. Write us direct for Catalog M.

WRIGHT WIRE COMPANY, Worcester, Mass.

QUESTIONS AND ANSWERS

(*Continued from page 22*)

would be discharged would consist mostly of bleaching materials. In general we should say that a settling basin large enough to hold five or six hours' supply would be sufficient, and if there was a lot of floating matter in this watter it could be run through some slow sand filters—that is, open filters, having sufficient area to filter at the rate of about one-half gallon per minute per sq. ft. of filtering surface.

The water would be discharged into the settling basins which ought to be two in number, so that one could be drained off and the sludge taken out and carted off, while the other was in operation. The filters should be at least two in number, so that when the top of the filter bed becomes clogged this could also be drained off and the top scraped off and carted away. The Pawtucket Dyeing and Bleaching Co. installed something of this nature at its new mill, and one or two paper mills have installed filters for purifying the waste water from the mill before going back into the stream.

MEXICAN FIBER

Technical Editor:

Inclosed is a sample of Mexican Pochote and I would like to know if there is an outlet for this fiber, and who could use it. This fiber will make a finer cloth than cotton, and there is a large quantity available here. Who makes machinery for weaving this fiber that can be shipped to Mexico?

Commercio (2595).

The sample of fiber submitted under the name "Mexican Pochote" is one of the many species of so-called "silk cottons" which abound in all tropical countries, the most important of which is commercial kapok. The sample is probably from the botanical species known under the old name of Bombax ceiba, a large tree common in many portions of tropical America, and particularly in Yucatan, from which locality Millspaugh lists it as Geiba pentandra. The name "Pochote" is a general one, as it has been applied to several other species.

"Commercio's" claim that this fiber can be spun and woven into a finer cloth than can be produced from cotton cannot be sustained, as it is not a spinable material. Cotton fibers when viewed under the microscope present the appearance of twisted ribbons, and when spun they interlock, thus giving strength to the yarn produced. The fibers of the entire class of "silk cottons," on the contrary, are short, smooth hairs, and so brittle and elastic that when twisted together they cannot be drawn out to form a thread or yarn—save when mixed with a very large percentage of some spinnable fiber. "Pochote," like its first cousin, kapok, can only be employed, therefore, as an upholstery material. When used as a filling for cushions, matresses, etc., this very harshness and elasticity become valuable properties.

The Mexican species has not yet reached commercial importance, although, if the material submitted can be obtained in quantity, and at a cost which would admit of competition with the kapok of commerce, produced largely in Java, it might find a ready market for upholstery. The substance is produced in large woody capsules, somewhat similar in form to a husked cocoanut, which grow upon trees that attain a height of 80 to 100 feet at maturity, the fiber being the masses of seed-hairs formed in the chambers of the capsule. In some portions of Mexico the fiber has been used for candle wicks. The inquiry regarding machinery, in view of the above, needs no reply.

CHAS. RICHARDS DODGE.

MAKING YARNS PROOF AGAINST MILDEW

Technical Editor:

I would like to offer a few remarks upon the replies of "Cromarty," "Reaburn" and "Alpha" to the question regarding how to make cotton yarn proof against mildew.

"Cromarty" is, of course, right in saying that such yarns will not mildew if kept dry, but instead of answering the question he advises that antiseptics be not used at all.

The suggestion of "Reaburn" and "Alpha" to use Epsom salts or maltrose I shall condemn at once as worthless, both in theory and in practice, and every textile technologist of knowledge and experience will support me. If the goods are kept dry of course they will not mildew, but these substances will not make the goods mildew-proof.

There are many substances available for making sized or unsized yarn or other cotton goods proof against mildew, but in selecting a suitable one for a particular purpose, the trade requirements must be accurately known, cost must be considered and the necessary amount of the substance must be known or ascertained. Some of these antiseptics are poisonous, for example, zinc chloride and mercuric chloride, but still they may be used in certain cases. Zinc chloride causes tenderness of the cotton if subjected to heat; it is useless if present in insufficient amount and it interferes with some dyeing operations. Carbolic acid is sometimes used, but it gives to the goods what may be an objectionable odor. Thymol is sometimes used and has a pleasant smell, but is expensive. One of the soluble double fluorides of sodium has been very extensively used and with great success, and it has the advantage over zinc chloride that it is not hygroscopic, and the advantage over carbolic acid that it is not volatile, but it is rather expensive. Naphthalene is, of course, another well known but volatile antiseptic.

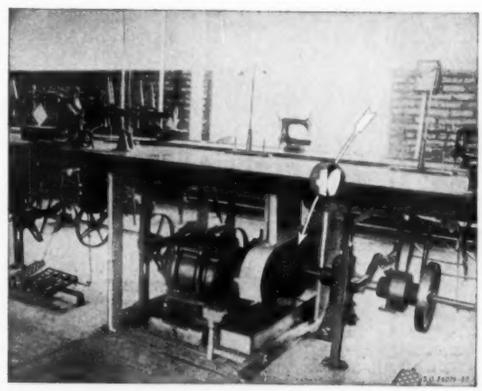
The whole subject is a somewhat difficult and complicated one, and the above is a very incomplete statement for anyone who desires to prevent mildew in the material he handles, but I think I have done something to show that the problem is by no means incapable of solution, but is a matter rather for careful study and investigation and is not one than can be dealt with offhand.

Many useless preparations have been employed by spinners and manufacturers, and in many instances the user has obtained great faith in them through a long period of immunity from claims for mildew. It is equally true that untreated yarn and cloth in a slightly moist condition is often shipped to warm climates when mildew might be expected to occur, but no claim is forthcoming. For such reasons as this it is difficult or almost impossible for any single manufacturer or exporter to accumulate an experience which entitles him to claim that his goods are mildew-proof unless he is using a substance which possesses definitely known or scientifically tested mildew preventatives. For many years I was in the position of having to investigate the causes of damage to textile material of many different kinds returned from all quarters of the globe, and I had to deal with hundreds of entirely distinct instances of mildewed goods. This experience then, and the scientific investigation which always followed, induces me to state with some degree of authority that unless mildew prevention is carried out on theoretically correct lines, it cannot result in an enduring and practical success.

J. H. LESTER, M.Sc., F.I.C.

'Most every plant has some line and countershafting

Why not drive yours by electric motors through MORSE Silent Chains?



Five horsepower MORSE Silent Chain-driving Line Shaft under Stitching Table in a Knitting Factory

(S. O. 26079-80)

THE transmission of power to line and countershafting IN ANY PLANT is a problem of mechanics rather than individual shop conditions.

A certain sustained speed is desired, easily obtainable by MORSE Silent Chain reduction from practically any speed motor. The motor can be of the standard high-speed type which costs less than special slow speed motors, and,

It can be mounted close to the shafting, on the wall, ceiling, or a column, thus saving floor space.

MORSE Silent Chain transmission requires less lubrication than gearing and usually less attention than belting.

It is more efficient than either gearing or belting, and is much more quiet than gearing.

It is not affected by heat, cold or moisture, and minimizes fire risks by eliminating dangerous sparking.

Ask nearest office for free copies of our publications, No. 13, Textile Mills, No. 14, Large Power Drives, the first two in our series "A CHAIN OF EVIDENCE"

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New Mill Enterprises, Enlargements and Improvements, Etc.

COTTON

PHILADELPHIA, PA. John Galashan, who has been hurling, mending and finishing turkish towels for the trade, has installed 16 looms for the manufacture of these goods in his plant, Mascher and Turner Streets.

PHILADELPHIA, PA. Philip Sheer, manufacturing hair cloth has removed from Howard and Palmer Streets to Howard and Berks Streets. He has added 20 looms, now having 80 looms installed in his plant.

*READING, PA. About 200 additional operatives will be employed in the new mill of Joseph Bancroft & Sons Co. which is expected to begin operations about July 1, as noted. Total equipment will be increased to 23,396 ring spindles and 634 looms by the installation of 13,000 new spindles and 354 new looms.

*HOPE, R. I. Exemption from taxation for a period of ten years is understood to have been granted the Hope Co., sheetings and shirtings, by the town council of Scituate, and work is to be started immediately by the company on the erection of a one-story weaving mill about 264 x 230 feet. The new mill, which will be erected to the south of the present plant, will be of brick construction and will be equipped with about 13,000 spindles at a cost of approximately $130,000.

WOONSOCKET, R. I. Capital stock of the Anchor Webbing Co., manufacturer of narrow woven fabrics, has been increased from $40,000 to $60,000. An equipment of 57 looms and 84 twister spindles is operated.

ANDERSON, S. C. Installation of 20 new looms has been made at the plant of the Equinox Mill to weave a grade of duck heavier than the other looms were capable of. An enlargement of this plant, the old Cox Cotton Mill, providing for a 15 per cent. increase, was recently completed.

WESTMINISTER, S. C. Oconee Mills Co. will install 40 additional new looms and have ordered automatic weaving machinery of this type from the Draper Co. of Hopedale, Mass.

*MARTINEZ, CAL. The Balfour-Guthrie interests, owning large cotton growing acreages in the Imperial Valley, advise that recent report to the effect that they are contemplating the establishment of a cotton mill here is entirely erroneous.

FITCHBURG, MASS. The Rodney Wallace Co. has been incorporated with a capital stock of $150,000 (1,500 shares common stock, par value $100). The incorporators are: George R. Wallace, president; Michael F. Dunn, treasurer; Frederick Wallace, clerk; Herbert L. Robert S. Wallace and George R. Wallace, Jr. This is an incorporation of the cotton waste business of Rodney Wallace conducted at 804 Main Street, it is understood. H. I. and G. R. Wallace were the proprietors of the old concern and M. F. Dunn was the buyer. Three machines are operated.

RALEIGH, N. C. At the annual meeting of the Cannon Manufacturing Co. at Kannapolis, N. C., last Saturday a semi-annual dividend of five per cent. was declared. At the directors' meeting J. W. Cannon declined re-election as president of the Kannapolis Mills, though retaining the presidency of other mills which the Cannon family control and chiefly own, and the following officers were elected for the ensuing year: President, M. L. Cannon; vice-president, Charles A. Cannon; secretary and treasurer, J. W. Cannon, Jr. The reports of the officers showed the business to be in a flourishing condition.

WOOL

SEYMOUR, IND. Under date of Jan. 27 the Seymour Wool Factory Co. announces that with the completion of its fifty years of existence a new company, the Seymour Woolen Mills, has been formed to continue the business under the same ownership and management, assuming all contracts, assets and liabilities. All wool blankets, shirtings, dress and skirting flannels are manufactured with an equipment at last report of 10 sets of cards, 8 narrow and 57 broad looms; a dye and finishing department is operated. The product is sold direct. The Seymour Woolen Factory Co. was capitalized at $80,000 and its officers were B. F. Schneck, president, treasurer and buyer and C. A. Hemmer, secretary.

SENECA FALLS, N. Y. Improvements have been made at the plant known as the Seneca Falls woolen mills and efforts are to be made to secure the establishment of an industry in it. It is stated that the buildings are in good condition and are equipped with woolen machinery. The Seneca Falls Woolen Co. formerly operated a plant at Seneca Falls on dress goods and men's suitings, with 9 sets of cards, 40 broad looms, 2,950 spindles, etc. This mill has been idle since 1909.

ASHTABULA, O. A movement is understood to be under way for the reopening of the plant of the Ashtabula Worsted Co. which has been idle since January, 1914. The annual meeting of the stockholders will be held Feb. 7 and it is understood that efforts will be made to dispose of the property. It is reported that waivers have been secured by O. C. Topky, secretary of the company, on stock held locally. The company was incorporated in 1912 and has a capital stock of $100,000. Worsted goods were manufactured with an equipment of 2 combs, 2 cards, 3,000 worsted spindles, 120 broad looms, and a dyeing department, etc. was operated.

HARRISVILLE, R. I. A profit sharing plan has been put into effect by the Stillwater Worsted Co. The first distribution under the new plan has been made, individual operatives receiving from $10 to $30. In announcing the scheme officially the company states that it has been inaugurated merely as a business proposition and will be continued if it justifies itself.

MERRILL, WIS. L. H. Stickler & Sons are installing machinery in a plant to be operated as the Merrill Woolen Mills Co., it is reported. Manufacturing is to be started about Feb. 10 in the carding and spinning departments and it is expected that about April 1 the manufacture of blankets, flannels and mackinaws will be started.

COLUMBIA CITY, IND. New carding and spinning machinery was recently installed in the plant of the Columbia Woolen Mills, fancy cassimeres. Business at the plant is understood to be good and the prospects for the future are considered bright. The mills are capitalized at $95,000 and were organized in the spring of 1914.

MISCELLANEOUS

CHROME, N. J. E. C. Klipstein & Sons Co. has been incorporated with a capital stock of $100,000 to manufacture dyestuffs, chemicals, etc. Incorporators: Ernest C. Klipstein, Ernest H. Klipstein and Gerald J. Klipstein. E. C. Klipstein is treasurer of the dyestuff importing and manufacturing concern of A. Klipstein & Co., 644 Greenwich Street, New York, and E. H. and G. J. Klipstein, his sons, are also with this firm. The Chrome plant has been in operation for some time producing a number of chemicals.

KNIT

PHILADELPHIA, PA. The Strongwear Hosiery Manufacturing Co. has been incorporated with a capital stock of $50,000, and Fred. J. Siebrecht, president and C. W. Wenzing, secretary and treasurer, are starting operations at Coral and Adams Streets. There are being installed 54 latch needle knitting machines, 8 ribbers and 8 loopers which will be operated on 84 needle half hose, the product to be sold direct.

SCHUYLKILL HAVEN, PA. The Rohrer Knitting Mills have purchased land for a new mill and will start to build about April 1. The building is to be a one-story and basement brick building, 160 x 100. Present equipment will be doubled when building is completed.

NORWICH, N. Y. Capital stock of the Norwich Knitting Co. is reported to have been increased to $200,000. Flat, ribbed and mesh underwear is manufactured with an equipment at last report comprising 50 spring needle and 20 latch needle knitting machines, 20 ribbers, 125 sewing machines, etc.

*BURLINGTON, N. C. The dyeing and bleaching department in process of construction at the plant of the Whitehead Hosiery Mills, Inc. is expected to be in operation by March 1. All machinery has been contracted for. The plant will have a capacity of 1,400 dozen men's half hose per day. A building 80 x 40 feet will be used as a dyehouse and a 30 x 140 foot finishing room is being constructed. The expenditure represents about $1,000.

*SPRAY, N. C. Contracts are now being placed for the erection and equipment of a knitting mill at Leakesville by the Thread Mills Co., owned by the Marshall Field interests of Chicago. The erection of such a plant was recently rumored, as noted in these columns. Details of the new mill now in course of construction for the German-American Mills of the company at Draper, N. C., in which will be installed 200 new looms, and of other enlargements of the Marshall Field plants, have been given.

*GIBRALTAR, PA. Building now being erected for the branch plant of S. S. Miller, hosiery manufacturer of Reading, will be a one-story frame structure, 36 x 150 feet. As recently noted 125 knitting machines will be installed for the manufacture of seamless half hose; present equipment of the Gibraltar branch is 75 machines.

LYKENS, PA. R. P. Fisher, of Lykens, Pa., will move into new mill about Feb. 15 when he will have about double his present floor space. He will add fifteen loopers to his present equipment to take care of increasing business.

PHILADELPHIA, PA. Chas. Seideman & Co., have changed the name of their factory No. 2, Howard and Montgomery Avenues, to the Philadelphia Knitting Mills. Their product consists of woolen and worsted sweater coats and neckwear and mufflers, both crocheted and woven. They have increased their equipment to 100 knitting machines and 20 sewing machines.

NEW YORK, N. Y. Oscar Schlesinger, proprietor of the Empire Knitting Mills, has moved his plant from 74 Richmond Street, Newark, N. J., to 41 Greene Street, New York City. Sweaters and sweater coats are manufactured, the equipment at Newark consisting of 40 flat knitting and 20 sewing machines.

BOWERSVILLE, GA. H. M. Clary is reported to be planning the erection of a knitting mill involving an investment of $25,000.

SILK

POMPTON LAKES, N. J. Plans have been prepared for the construction of an addition to the plant of the German Artistic Weaving Co. and part of the old mill is to be remodeled. Business of the company, which manufactures silk ribbons, labels and shoe lacings, has improved materially within the last few months, making necessary an extension of facilities. Equipment at last report was 280 looms.

*STROUDSBURG, PA. The new mill of the Monroe Silk Mills, which is to start operations soon, is a two-story building 60 x 80 feet of brick construction. It will be equipped with a total of 28 looms, 14 on each floor; 6 looms will be removed from the old to the new mill. Ample provision is made in the new building for future enlargements which may become necessary.

WILKES-BARRE, PA. Announcement is made of the purchase by the Duplan Silk Co. of a large tract of land comprising about three and one-half acres extending from North Pennsylvania Avenue to Wyoming Street and from Beaumont to Butler Streets, upon which will be erected a mill to give employment to several hundred operatives. The Duplan Silk Co. operates plants at Hazelton, Pa., and West New York, N. J., and is to start operations in the new branch at Dorrancetown, Pa., at an early date. It has a capital of $1,150,000 and manufactures piece dyed silk and silk mixed goods, with 10,000 spindles and 1,000 broad looms at Hazelton and 150 looms at West New York.

MILL PERSONALS

John P. Lockwood has accepted a position as overseer of weaving for the Adams (Mass.) Woolen Co. He was formerly employed at Rochdale, Mass.

William Wade has accepted a position as night superintendent for the cloth department of the Toronto Carpet Manufacturing Co., Ltd., Toronto, Ont., Canada.

James F. Fraser, for the past 9 years in charge of the weaving department for the Sawyer Mills, American Woolen Co., Dover, N. H., has resigned his position with that company. On leaving their employ, Mr. Fraser was presented with a gold watch, diamond stick pin and ring with masonic setting.

W. H. Kingsley, overseer of weaving for the Readville (Mass.) Cotton Mills, has resigned his position with that company.

W. A. Booth has been appointed overseer of weaving for the Sawyer Mills, American Woolen Co., Dover, N. H. He was formerly employed for the Merrimac Woolen Co., Dracut, Mass.

Arthur Butterworth, overseer of finishing for the C. A. Amidon & Sons Mill at Wilton, N. H. has resigned his position with that company. He is succeeded by Thomas Somerville who formerly held this position.

William E. Chamberlain, overseer of finishing at the Esmond (R. I.) Mills, has resigned his position with that company.

D. Provost, overseer of dyeing for the Paragon Worsted Co., Providence, R. I., has severed his connection with that company.

William Pendergast, overseer of carding for the Holliston (Mass.) Woolen Mills Co., has resigned his position with that concern and returned to his home in Franklin, Mass.

** Indicates mention of project in a previous issue. Other news on page 24.*

DYESTUFFS AND CHEMICALS MARKET

QUOTATIONS

Acids.

Acetic, 28 per cent., bbls.	5	@	6
Carboys	5½	@	6½
Citric, crystals	70	@	80
Lactic	—	@	—
Muriatic, 18@20 degs.	3½	@	5
Nitric, according to strength.	Nominal		
Oxalic (German)	Nominal		
Do. (Norwegian)	Nominal		
Do. (Domestic)	60	@	62½
Sulphuric, 66 degs.	Nominal		
Tannin, light	60	@	65
Commercial	45	@	50
Tartaric, crystals	58	@	68
Powdered	59	@	65

Chemicals, Dyestuffs and Extracts.

Acetate of soda	10	@	14
Acetone, pure, drums	—	@	—
Albumen—blood	30	@	40
Egg	65	@	1 00
Alizarine	—	@	—
Assistant	—	@	—
Oil soluble	—	@	—
Alumina-sulphate	4¼	@	5
Alum—lump	10	@	10½
Ground	10½	@	11
Powdered	11	@	13
Ammonia aqua, 16@26 degs.	3½	@	7
Carbonate	8½	@	9
Ammoniac, Sal:			
Commercial, 99 per cent.	8¼	@	8¾
Aniline oil	90	@	1 00
Salt	1 15	@	1 50
Antimony—Oxide	—	@	—
Soluble, crystals (3 grades).	Nominal		
Salts, patent	—	@	—
Archil extract	50	@	60
Argols—white, plates	—	@	—
Red, powdered	—	@	—
Powdered	—	@	—
Arsenic—White	5¼	@	5¾
Red	50	@	60
Barium chloride, per ton	$100	@	$125
Bleaching powder:			
Domestic	13½	@	18
Blue vitriol	24½	@	25
Do., in carload lots	23	@	24
Borax, refined, crystals and powdered, bbls.	6½	@	7
Chrome alum	30	@	38
Camwood, ground	20	@	25
Chrome—Acetate, 20 degs.	—	@	—
Crystals	—	@	—
Oxide	—	@	—
Copperas	—	@	1 25
Cream tartar—Crystals	45	@	46
Powdered	42	@	43
Cutch, bales	9½	@	16
Dextrine—Potato (Domestic)	—	@	—
Do. (corn), carload lots, bags	—	@	3 00
Do., bbls.	—	@	3 06
Do., spec., dark canary bags	—	@	3 10
Do., bbls.	—	@	3 16
Do. (foreign)	5¾	@	7
Formaldehyde	8½	@	12
Fuller's earth, imp., lump, per ton	20 00	@	22 00
Powdered	21 00	@	23 00
Fustic: Solid	25	@	30
Liquid	20	@	25
Gambier (in store)	15	@	17
(To arrive)	—	@	—
No. 2 cube (to arrive)	—	@	—
No. 1 cube (to arrive)	—	@	—
Glauber's salts, crystals, bbls.	1 00	@	1 25
Powdered	2 00	@	2 50
Glycerine (C. P.), bbls, dms., extra	53	@	54
Cans	54	@	55
Distilled yellow	52	@	53
Light, yellow, crude	—	@	45
Gum, Br., carload lots, bags	—	@	3 25
Do., bbls.	—	@	3 31
Hematine paste	20	@	25
Crystals	35	@	40
Hypernic chipped	9	@	10
Indigo—Bengal	3 00	@	3 50
Guatemala	2 00	@	2 40
Madras	2 00	@	2 50
"M. L. B.," and "J" (synthetic)	—	@	—
Indigo extract	—	@	—
Iron—liquor, per gal.	25	@	28
Nitrate, true	—	@	—
Com	—	@	—
Lead—brown sugar	14	@	18
White sugar (crystals)	15	@	20
Nitrate	18	@	20
Logwood chips	8	@	9
Extract	18	@	25
Crystals	35	@	40
Myrbane oil (drum incl.)	23	@	24
Nutgalls, blue Aleppo	50	@	55
Chinese	—	@	—
Olive oil	95	@	1 00
Olive Oil, Foot's	10½	@	11
Oils, wool, Elaine, bbls., per gal.	—	@	—
Potash—Bichromate	57	@	60
Carbonate (6 grades)	95	@	1 15
Caustic, 70-75 per cent.	52	@	55
90 per cent.	62	@	65
Chlorate crystals	58	@	60
Prussiate red	59	@	61
Yellow	1 15	@	1 25
Quercitron, per ton	60 00	@	70 00
Bark, extract	12	@	15
Sapo flour, spot	4½	@	4¼
Salts of tartar	1 15	@	1 25
Soda, Sal, 100 lbs.	1 15	@	1 30
Concentrated, 100 lbs.	1 75	@	2 00
Caustic, 60 per cent.	5	@	6
76 per cent.	5¾	@	6
Powdered, 98 per cent.	5¾	@	6
Ash, carbonated, 48 per cent.	—	@	3½
58 per cent., bags	—	@	—
58 per cent., bbls.	—	@	—
Arsenate, 50 per cent.	—	@	—
72 per cent.	—	@	—
65 per cent.	—	@	—
Bicarbonate, 100 lbs.	1 75	@	2 25
Bichromate	36	@	40
Bisulphite, 32 degrs., 100 lbs.	1 00	@	1 25
40 degrees, 100 lbs.	1 10	@	1 35
Granular	5½	@	6
Chlorate	37	@	40
Hyposulphite, in casks	2	@	2½
In kegs	2¼	@	2¾
Nitrate, carload lots	—	@	5¾
Less than carload lots	6	@	6¼
Nitrite	13	@	15
Phosphate (Commercial)	3	@	3½
Prussiate crystals	90	@	1 10
Sulphate	75	@	1 00
Sulphite, powdered	—	@	—
Sulphide, crystals	1¾	@	3½
Do., concentrated	3	@	5½
Soap, green, olive, imp.	—	@	—
Domestic	—	@	—
White olive oil	—	@	—
Starch, corn, pearl, bags, carload	—	@	2 25
Do., bbls., carload, lots	—	@	2 31
Potato (foreign)	7½	@	8½
Wheat	—	@	—
Rice	—	@	—
Sumac (high test), spot	65 00	@	70 00
Do., to arrive, basis 28%	63 00	@	65 00
Extract	12	@	14
Colorless	13	@	15
Tapioca flour	4½	@	4¾
Tartar emetic	—	@	—
Tin—Muriatic, 54 degs.	—	@	—
33 degs.	—	@	—
Crystals	38	@	42
Bichloride, 50 degs.	—	@	—
Oxide, bbls.	—	@	—
Oxide, kegs	—	@	—
Do., smaller quantities	—	@	—
Zinc dust	35	@	40
Zinc oxide (foreign), Red seal	—	@	—
Green seal	—	@	—
White seal	—	@	—
Domestic	48	@	50

CHEMICALS STRONGER

General Advances Continue—No Decline in Logwood Prices

Fundamental conditions remain unchanged in the local dyestuff and chemical market. The dyestuff situation may be described as absolutely the same as that which has obtained since last spring, so far as is apparent. Chemicals continue advancing steadily, with all indications for the future pointing to constantly appreciating values.

Logwood prices continue at levels reached during the period when the embargo on exports from Jamaica was in force, and well-informed opinion holds that no recession may be looked for. With the announcement of the repeal of the embargo, interest in logwood appeared to have died out, yet the situation now is probably as interesting as ever. There is little question of domestic manufacturers of logwood being willing to fulfill all the requirements of Great Britain regarding the sale of sufficient logwood to Canada, inasmuch as their best interests demand that this be done. No supplies from Jamaica have been received in this country since the embargo repeal, but the first shipment is expected about the middle of this month. It is interesting to note that with the jump in prices and in demand for raw material, caused by the Jamaica embargo, growers in Hayti, San Domingo and Mexico greatly increased their efforts toward efficient cutting and transportation, with the result that they will probably receive larger proportions of domestic orders, and Jamaica, consequently, increasingly smaller proportions. The chief difficulty in the matter of consumers in this country obtaining sufficient quantities of the finished product has been the scarcity of manufacturing facilities rather than lack of raw materials, and this holds true to-day to as great, if not greater, extent than before.

HIGH PRICES IN ENGLAND

Chemical Situation Complicated—Why Not Requisition Wool?

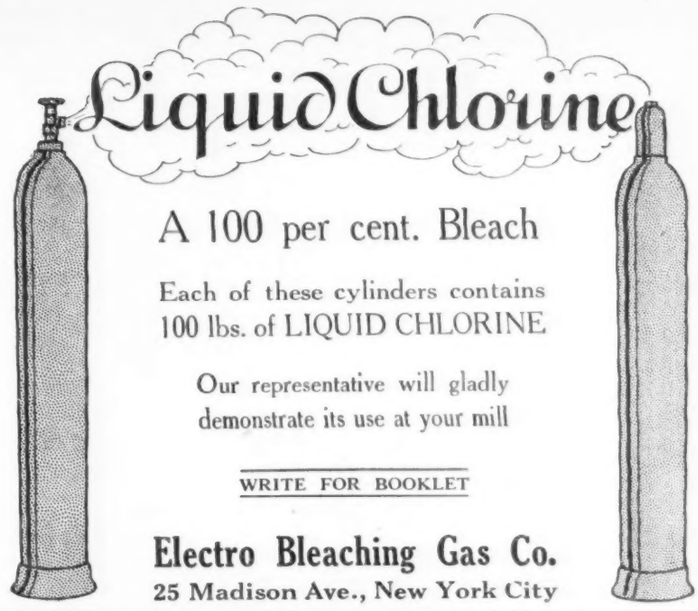
(From Our Regular Correspondent)

In the absence of sulphuric acid in England, commandeered mainly for the munitions business there has been a search for a substitute for such purposes as grease-extraction from wool-washing and piece-scouring waters, carbonizing, decolorizing or dyeing woolen rags. A practicable, although not a handy substitute, has been found in a by-product of the nitric acid manufacture. Chile nitrate, the nitrate of soduim, is treated with sulphuric to liberate the nitrogen and a crude soduim sulphate or nitre cake remains in which there is about 30 per cent. of sulphuric acid. This cake, which has hitherto been dumped at sea or on waste ground, can be packed into the tanks in which greasy liquors are to be precipitated, or with steam and water it can be used in the dye-vessel or stripping bath. The cake is wet and difficult of transportation, and greater weights of it have to be used than of common brown oil of vitriol but it can take the place of the liquid acid.

Acids are not the only chemicals of which prices are extremely high. Bleaching powder at some $70 a ton is twice as dear as a year ago. Caustic soda from around $50 has gone to about $150 per ton. Bichromate of potash has doubled and bichromate of soda more than doubled.

Dyes have come to ounce-prices. Twelve times the pre-war rate is about the best bargain that can be made with a dealer for any coal tar color, 20 times the old cost is common enough and up to 50 times has been paid. Dyes are bought dearly but they can be sold dearly and dyers possessing little stores of color useless to themselves are taking advantage of the high market.

Men in the wool trade viewing the high prices to which raw material has been forced, largely by Government purchasing, have been tempted to ask whether the best possible arrangement was made. Would it not have been better had the authorities simply requisitioned what wool they required, fixing prices for it, for yarn and for cloth? The difficulties of that course and the injustice to sellers may be passed over. In one market the Government has repeatedly requisitioned not the raw material but the production of the machines and has fixed the prices at which yarn was to be charged by the spinners and the prices at which cloth would be taken from manufacturers. This is the Dundee market where broadly half the output of jute goods in the months December-February is for Government account. The Government has secured its supplies relatively cheaply. Manufacturers were bluntly told to take 3½d. (7c.) for the regular 10½ oz. 40-inch Hessian or to leave it. They took the offer but this arrangement for sparing the public purse brought no obvious advantage to the regular buyer who had to give 4½d. (9c.) in the same week for the same grade of goods.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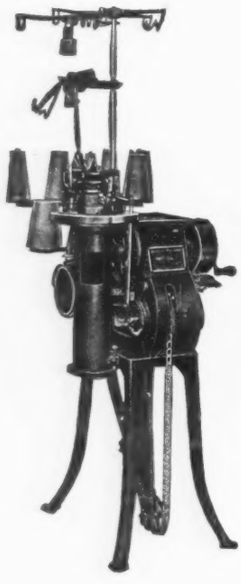

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NO ESTABLISHED PRICE BASIS IN HOSIERY TRADE

Scarcity Leads to Independent Advances Here and There—Export an Important Factor

There is little or no established basis of quotations to-day for many of the standard lines of cotton hosiery. Many mills are going on the basis of charging all the traffic will bear, and as a result there is great irregularity in the market with marked preponderance of unusually high prices. For the nearby months jobbers are accepting the situation with composure, and although there is an unusual amount of "shopping" being done, sales are not vastly restricted solely because of disagreement on price. This condition is affecting later months to a marked degree and agents say that comparatively little fall buying has been done on cotton hosiery. The majority of mills are not disappointed in this for many of them are as equally unwilling to sell for the late months as the buyers are to buy. There is, of course, a possibility of wide fluctuation in raw cotton, which brings with it considerable uncertainty, but more than this, there are many possible changes in the ratio of demand and supply for the hosiery itself which may vitally affect the price level and general tone of the market within the next eight months. That merchandise can be distributed at the seller's price is being demonstrated to-day and agents, therefore, are not disturbed at the outlook, because they are thoroughly confident that every stocking which the industry can produce will be needed to answer the call from consumer, retailer and jobber.

INFLUENCE OF EXPORT TRADE

Export trade is playing a large part in shaping the course of the market. The orders placed in the past for foreign shipment have subtracted a large block of production from the amount normally available for home use, and as a result increased scarcity is added to a situation in which demand was already rapidly overtaking supply. The continuance of present conditions largely depends upon the continuance of a demand from foreign merchants. Agents are frank to state that many of the high prices heard from mills are directly the result of a sold-up condition due to foreign orders. If this bubble is pricked by sudden cessation in export demand, many of these false quotations must disappear. It is believed that domestic demand is now strong enough to support the market against any depression which might, under other circumstances, develop from a falling off in export demand. If mills persist in advancing prices beyond reason they will by their own act check their overseas trade. Exporters point to this practice as having been active in the past in preventing the development of an established foreign business. Home trade has always improved at just the wrong time and the higher prices have thrown the market out of line for a continuation of relations with foreign buyers.

BUYERS ARE COMPLAINING

Despite the improvement in tone and the better statistical position of the market, agents complain that the present is by no means satisfying to them. They have to contend with a continual current of complaints from buyers who are not receiving their merchandise on schedule or who are dissatisfied with the quality of the goods delivered. Neither of these things arises from any act within the control of mill man or selling agent. Delayed deliveries are due solely to the congestion in finishing houses and the fact that demand exceeds the industry's capacity to supply. Variation in quality arises from the lack of many of the old standard dyes and the use, in a more or less experimental way, of many new ones. Buyers are calling for deliveries of fiber silk hosiery, and their resident representatives are shopping in offices which have rarely if ever seen them before in an effort to pick up additional quantities of this merchandise. As previously stated in this column, numerous mills are virtually out of the market on fiber goods and as a whole the industry has sold more than it can produce. The chief limitation upon production is the supply of fiber yarn, which is scarce and without prospective relief either by importation or by home production.

HOSIERY TRADE NOTES

Woolen hosiery is the principal class of merchandise in which fall business has been done. Many of the lines opened in December have been sold up and for the time trading has stopped.

The mills which are offering cotton hosiery for next fall are in instances quoting advances of 20 per cent. over figures current a year ago. There is little trading at these levels, but buyers and sellers are equally willing to play a waiting game.

The skyward course of raw silk is still a feature of the chief supplying markets. Italian silk, the trade states, is already beyond the highest figure which could reasonably be paid. Demand is therefore turning to Japan and this factor in itself is helping along the bullish trend begun in December.

Because of the higher price of pure silk and of fiber silk many in the trade are looking for better demand on mercerized cotton hosiery, but most recent reports fail to indicate anything unusual in current demand for the latter merchandise. Developments later in the season are expected in this connection, particularly at the time when jobbers find they are shipping out fiber silk goods to retailers faster than they are coming in from mills.

Prices on nearly all lines are irregular. Each mill or agent names his own figure and if a customer can get a similar article at another office for less money the order is passed up without regret.

Hosiery Manufacturer Makes Shoes

As an outgrowth of the demand for the right and left comfort hose made by the Muskegon (Mich.) Knitting Mills, Louis P. Haight, president of the mills, has entered upon the manufacture of natural shape shoes, designed to fit the foot. Mr. Haight has associated with him a large tanner and a shoe manufacturer. The Natural Shape Shoe Co. has rented a portion of the Muskegon Knitting Mills and its product made of selected leathers is being sold direct from mill to wearer. Mr. Haight intends to assist other manufacturers in the production of right and left hose of his patented design and for the present as far as his plant can accommodate them he will knit their yarn for a moderate charge.

UNDERWEAR SALES ARE APPROACHING PRODUCTION

Mills Can Now Map Out Their Work on Heavy-weights Well Into Fall

In several quarters of the underwear market orders on hand equal or exceed average production for the season, and the question of the attitude to be taken on further orders is largely one of policy. Buyers have in some instances been operating, as they themselves confess, to an extent which anticipates the failure in delivery of a certain proportion of the merchandise. Many of them, however, have been buying in large volume because they see the increased distribution ahead of them and are satisfied that they have need for all the merchandise they can lay their hands on. Certain mills take the attitude of never turning down orders on the ground that there may be cancelations, and it is better to have too many orders on hand than not enough. When this attitude results in failures to deliver, jobbers meet it by buying proportionately more than they really need. The interaction of these two practices tends to magnify each of them and unless there is some determined change, a condition of instability must persist. A greater accuracy in fulfilling contracts and in respecting them is the best influence that can work for improvement in this respect.

50c. BALBRIGGANS ADVANCED

The only price advance reported during the week is one on the better grade balbriggans, amounting to 12½c. on single garments of the 50c. retail class. This advance is by no means proportionate to the advance which has taken place in 25c. bals since their opening, but the disparity is a good indication of the difference in business conditions affecting these two lines. There has been little snap to the market for the 50c. goods, buyers preferring to take union suits when operating on a class of merchandise to retail at 50c. or more. Of course, competition with woven underwear has been a factor of great importance over a period of years in restricting the sale of 50c. bals, but so far as agents can see this influence will be no stronger in 1916 than it was in 1915. In the lower priced goods jobbers have shown anxiety for prompt deliveries and agents have received many requests of this nature. Some duplicate business is being placed, but to a large extent this is limited because of the sold-up condition which jobbers find faces them on nearly all popular lines.

HEAVY-WEIGHT SITUATION

It is merely repetition to state that cotton ribs are sold into a stronger position than they have enjoyed for a number of years and their trade comes almost entirely from domestic sources. Fleeces are almost equally well sold, but a large proportion of the orders are on export account, and agents agree that if the industry were compelled to rely only on the domestic jobber many fleeced goods mills would suffer. The week has not been active so far as new orders are concerned, but with the mass of business already on hand this is to be expected and is not a depressing influence. The position with woolen underwear has been vastly improved because of the contracts for foreign military supply placed in this branch of the industry, particularly with Cohoes mills. It is stated in this connection that the product of these mills up to the close of February is already engaged for foreign shipment. Thereafter the mills will have to fall back on their domestic orders unless additional foreign business comes to hand, a fact which agents doubt, and it is believed that these orders will prove sufficient to run the mills at better capacity than in 1915.

UNDERWEAR TRADE NOTES

The product of several Cohoes woolen goods mills has been taken up to the end of February by orders placed through a large New York banker for the supplying of one of the allied armies.

The garments concerned are shirts and drawers of 85 per cent. wool, according to local report, and the price paid is $10.50.

The forerunner of this business came to light in December when the market was generally cleared of its spot merchandise for immediate foreign shipment. When all available had been shipped out, the contracts above referred to, extending through January and February, were placed.

Agents are wondering how much of buyers' future operations is based on expectation that full deliveries will not be made.

The H. B. Claflin Corporation has broadened the scope of its sweater department. This department now carries a wide line of goods, most of them under the brand Bontex, a name made familiar to the trade by its previous use in the Claflin wash goods department. The sweater line includes garments in pure thread silk, fiber silk, Shetland, jersey cloth, zephyr, worsted, wool and plaited. Despite the complexity of the dyestuff situation, full range of colors is being shown.

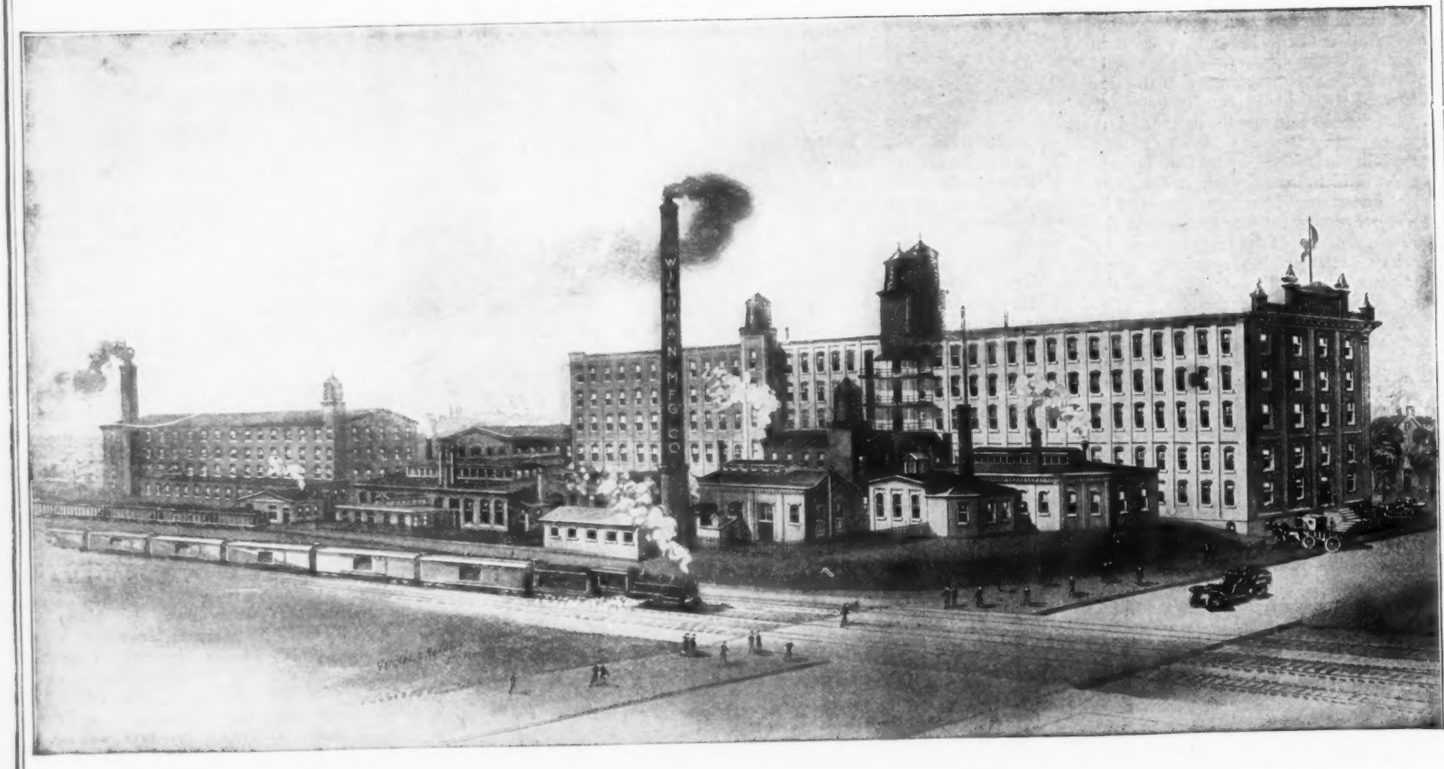
JERSEY CLOTH IN DEMAND

Sweater Mills Busy on Many Different Lines

A large percentage of sweater business was placed with salesmen on the road and mills which got out early in the game received the best volume of business. Others, however, will not lack orders as the season goes on, for there are clear indications of a shortage. There are said to be a number of manufacturers who did not cover on raw material when they sold their goods last fall and such has been the advance in these materials since then that many agents believe that the finished merchandise will never be delivered. It is, of course, impossible to estimate what portion of the product will be so affected. Jobbers have in part anticipated a hold-up in deliveries by buying more than they see definite need for, but as the season develops they are gaining belief that they can use all that is delivered to them.

Jersey cloth is proving a popular article and mills which can turn it out in good grades are selling much more in the piece than in the garment. The fabric is securing wide use in men's outing suits and for women's clothing and mills are said to be sold up well through the season. In the cheaper grades of all-cotton cloth this demand is not so noticeable. There is, however, better demand for cotton jerseys themselves and mills that can offer attractive colors have taken a large business.

F. B. WILDMAN
President and Manager



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KNIT GOODS—Continued

VOGUE OF JERSEY CLOTH

Philadelphia Manufacturer Speaks of Increased Demand

John E. Hanifen, president of John E. Hanifen & Co., Philadelphia, in a newspaper interview, speaks as follows regarding the growing vogue of jersey cloth for men's and women's clothing:

"People generally do not know the class of goods that are now being made by the knitting process. Here are samples of cloths for men's and women's overcoats that look like heavy woven goods, but they are all knitted, and we are turning out enoromus quantities of lighter weight jersey cloth for women's dresses. This jersey cloth has obtained quite a vogue in Paris, where it is being made up mainly in Spanish designs by the foremost dressmakers. We are making a great deal of it in broad colored stripes for sport costumes for ladies. We have at present 17 different combinations of color stripes, and we are turning out about 15,000 yards a day."

Mr. Hanifen went on to speak of the rising price of wool and the effect which must be felt in knit goods. "Last October," he said, "I was going to buy enough yarns to keep our mills running for this year, but was advised by the yarn brokers to wait till December. I bought a considerable amount in October, and I wish I had closed contracts for all I could get then, as the prices were up about 15 per cent. when I went to buy in December.

"There is no question about the scarcity of woolen underwear at present. This country is supplying all the countries that formerly looked to Germany, England and France, and we have our own home market to supply as well. A man called here yesterday to place an order for $60,000 worth of goods, but on account of the unsettled condition of the yarn market I could not give him a price till I figured out what I could buy the yarn for.

"This war was the salvation of knitgoods manufacturers in this country, and if a reasonable tariff cannot be passed to shut out competition from abroad, I am afraid we will be as badly off as ever when the war ends."

Mr. Redfield's Reports

Editor of the JOURNAL:

We have read with much interest the editorial in the TEXTILE WORLD JOURNAL, regarding the report upon the hosiery industry by Secretary William C. Redfield, of the Department of Commerce. It would seem to us that there has been a similarity of thought in all Mr. Redfield's investigations.

About two years ago we were interested in a report which he made from his investigation of the manufacture of pottery, and at that time he reported that the reason for the industry not being in a flourishing condition was because of antiquated buildings, obsolete methods, etc., and incompetency and inefficiency on the part of the manufacturer.

In June, 1914, and again in December, 1914, the Montgomery County Manufacturers' Association, of which we are members, through its president and secretary, addressed communications to the President of the United States, advising him of the condition of the industries in Montgomery County, attributing same to the tariff bill under which we were then working. This brought about an investigation on the part of Secretary Redfield, and his report was practically the same as he now makes regarding the hosiery industry, and as he previously made regarding the manufacture of pottery.

Those who have made a close study of the hosiery industry of this country recognize that without a protective tariff there is no way in which our manufacturers can compete with those of Germany unless there is a very radical reduction in the wages paid, and we think any fair-minded person who would make an investigation of the conditions of the hosiery industry for the past twenty years could come to no other conclusion than that the tariff, the all important point, governs the success or non-success of the manufacturer of hosiery, and to evade this issue, and place the fault upon antiquated methods, improper cost accounting, out of date machinery or any other reason, is not borne out by the facts, even though it may serve to bolster up a political theory or a free trade doctrine, advocated by those who appear to have no conception of the needs of an industry of this character.

That the hosiery manufacturer to-day is busy is due solely to the fact that importations from Germany have been practically stopped by reason of the war, and we venture to predict that had it not been for the war, under our present tariff, the condition of the hosiery manufacturers would have been a deplorable one. KNITTER.

Plans for Textile Exhibition

Now that the Southern textile exhibition is a matter of history there is renewed interest among manufacurers of textile machinery and supplies over the Fifth National Textile Exhibition, which takes place in Mechanics Building, Boston, April 24 to 29. Many of the manufacturers and accessory makers who made displays in the South, have made applications for space at the big Boston show. There will be over 300 exhibitors and there will be hardly a machine of important use in a cotton mill, starting with the picker room and including dyeing, finishing and cloth room equipment, that will not be shown in operation. It will probably be the most comprehensive display of textile machinery that has ever been assembled.

From every section of the United States and Canada mill officials, agents, superintendents and overseers will flock to Boston during "Textile Week," and several of the big textile associations will hold their annual sessions at that time. More and more the educational phase of the textile exhibition is becoming clear to manufacturers and others vitally concerned in this field of commercial activity.

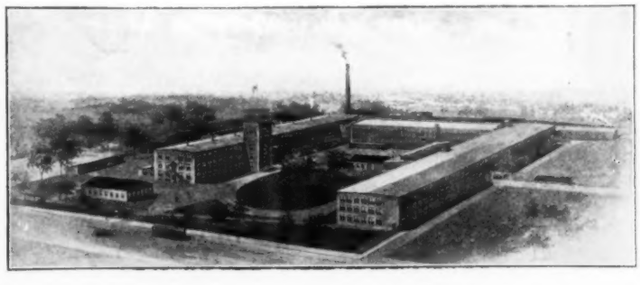
While machinery for cotton manufacturers will predominate, yet there will be a good representation of wool, silk and knit goods machinery. This will be much more in evidence than two years ago, as every manufacturer of the latter class who exhibited then was decidedly enthusiastic over the results. Another big feature will be the exhibits made by the members of the New England Association of Commercial Engineers, and other power device makers. The entire lower floor has been given over to this association and they report that most of the space has been taken.

The Standard Soap Manufacturing Co., textile soaps, Woonsocket, R. I., is distributing to its customers a seal bill fold and card case combined. The "Justly Famous" Bradford textile soaps are being emphasized in gold lettering supplemented with the compliments of Samuel Hanson, manager.

"UNIVERSAL" WINDING MACHINES

The only kind used in this spinning mill for their celebrated knitting yarns

Shop LEESONA Mark



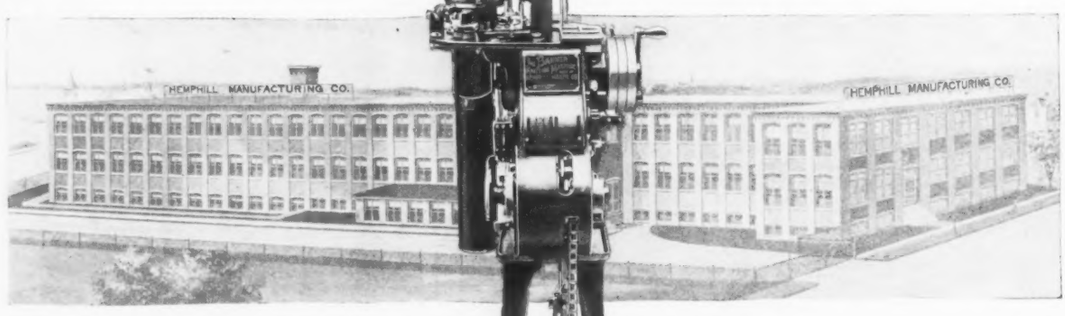
UNIVERSAL WINDING CO.
BOSTON

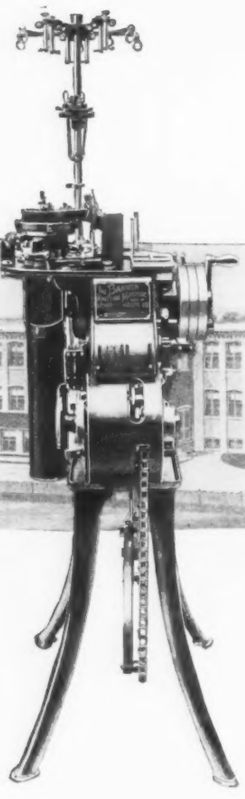
BANNER

FULL AUTOMATIC

HOSIERY MACHINES

MORE THAN 23,000 IN SUCCESSFUL OPERATION





Standard Gauge
260-3 3/4"

Extra Fine Gauge
280-3 1/2"

FULL AUTOMATIC HOSIERY MACHINES

These new machines have made possible the success of new lines of extra fine gauge hose and half-hose.

Many leading mills of the country are now largely equipped with these new machines, and their absolutely successful operation has been demonstrated.

ALL PARTS ACCESSIBLE FROM FRONT OF MACHINE

Write for particulars and samples of work.

HEMPHILL MFG. CO.

PAWTUCKET, RHODE ISLAND

Over 23,000 Banner Knitters in Operation

Over 100 Machines Completed Weekly for Home and Export Markets

CHINESE COTTON INDUSTRY

(*Continued from page 37*)

other country of the world, and is at least 10 per cent. to 15 per cent. cheaper than in Japan. The following table

Name of Mill.	Capital. Taels.	Spindles.	Looms.	Net Profits. 1911. Taels.	1912. Taels.	1913. Taels.
Ewo Preferred (7%)	750,000	72,264	580	203,431	339,726	552,270
Ewo Common	400,000					
Kung Yik	750,000	25,576	300	108,166	166,555	153,100
Shanghai	1,000,000	45,872	386	132,226	361,387	544,906

shows the high and low prices paid per day of 12 hours in the principal mills:

	Low. American. Cents.	High. American. Cents.
Lapper room—each operative	10	12
Cards—6 to 8 to one man	8	12
Drawing—6 to 7 deliveries to one operative	7.2	10
Stubbers—40 to 60 spindles per operatives	9.2	12
Intermediates—60 to 80 spindles	8.8	11.6
Fine frames—150 to 160	10	12
Spinning frames—125 to 160	10	12
Reelers	10	12
Slasher tenders	7.2	10
Weavers	10	14

The table shows the earnings of girls of 18 years and over and of adults. Many children are used around the spinning and weave rooms as helpers, doffers, filling carriers, etc., and they seldom are paid over 5c to 6c. per day.

Absolute costs of production in each department are difficult to obtain because mills do not keep accurate figures. However, the total cost in a number of mills of yarn, that is, the amount that must be added to the price of the raw material before there is any profit—labor, oversight, salaries, office expenses, power, supplies, repairs, everything, in fact, except depreciation—is shown in the following table with the corresponding cost of manufacturing the same numbers of yarn in America according to the report of the Tariff Board, with the item for depreciation deducted:

COST OF PRODUCTION.

Number of Yarn.	In Chinese Mills. Lowest. Cents per lb.	In Chinese Mills. Highest. Cents per lb.	In American Mills. Cents per lb.
10s	0.94	1.20	2.01
12s	1.07	1.34	2.46
14s	1.20	1.47	2.92
16s	1.34	1.61	3.39
20s	1.61	1.89	4.83

It should be stated that the American costs were obtained several years ago, and have probably increased. In Japan, according to the best information available, it costs 2c. per pound to make 16s and 2½c. per pound to make 20s.

COST OF POWER

When steam power is used, coal can be purchased from Japan or from Chinese mines at prices ranging from $2.50 to $3.50 per ton, landed at the mill. In Shanghai it is highly advisable to use electric power generated by the city electric plant, the charge for which is only one-third to one-half a cent per kilowatt hour. The rate depends on the amount used and the constancy of the use.

COST OF BUILDING

The cost of land and building is lower in China than in the United States. Both brick, cement and labor are easily obtainable at cheap prices. The cost of building and equipping a mill depends on many circumstances, such as location, machinery prices, the numbers of yarn and qualities of cloth to be made, etc. On a mill of 25,000 spindles the cost of the machinery and equipment should not be over $10 per spindle at the outside, and the cost of the land and building about $2.50 to $3 per spindle. It should be stated in connection with the building that it is not necessary to erect operatives' houses, particularly in Shanghai, as the operatives generally have their own homes or can build them cheaply.

PROFITS

The cotton mills in China which have been running for many years and which have been properly managed have, without exception, been highly successful. In order to substantiate this statement there is shown below the result of the operation of three of the mills in Shanghai which are under foreign control:

FUTURE PROSPECTS

In view of the conditions described and the facts presented there is every reason to believe that the future holds splendid prospects for the establishment and development of cotton mills in China. It is not reasonable to suppose that the country will continue to import such large quantities of cotton goods from abroad when it possesses such excellent advantages and resources for building up an industry of its own. It is true that the tariff is low, but China is sure to raise its duties in the next few years on account of the insistent need for revenue with which to carry on the Government. The duties on yarn and cloth at present amount to only about 2½ per cent. to 3 per cent.

Foreign yarn and cloth pay the import duty when they arrive and may be sent to any other treaty port afterward without the payment of any additional tax; if sent to any point in the interior, not a treaty port, they may be shipped under a "transit pass" upon payment of one-half the import duty which exempts them from any internal taxes or "likin"; Shanghai-made cotton goods, on the other hand, must pay the export duty if sent to a treaty port, and if sent to any other point in the interior must pay whatever internal taxes are levied.

Italy Promotes Silk Industry

Editor of the TEXTILE WORLD JOURNAL:

With reference to a previous communication from the undersigend, dated March 12, 1915, calling your attention to an international prize competition for new silk reeling and throwing machinery, announced by the Italian Government with Ministerial Decree of July 20, 1914, of which I sent you translation, I am now requested, by the Ministry of Agriculture, Industry and Commerce of Italy, to inform you that the time within which applications must be submitted, which was originally announced until December 31, 1915, for the fourth prize of said competition (viz. a prize of 15,000 Italian lire for mechanical improvement in the individual operations relating to throwing and twisting), has been extended to December 31, 1916.

For the other three prizes of said competition, the time within which applications must be submitted remains unchanged from the date originally announced, viz., until June 30, 1917.

Very truly yours,
Guido Rossati,
Special Correspondent of the R. Italian Ministry of Agriculture, Industry and Commerce.

Pennsylvania Female Textile Help

Reports from the Bureau of Statistics and Information of the Pennsylvania State Department of Labor and Industry, show there are 56,253 female employes engaged in textile plants from 14 years of age upwards.

UNION SPECIAL

THE TANDEM INTERLOCK

WHEN YOU PURCHASE A TANDEM INTERLOCK—you are buying a highly specialized machine, which produces a seam so FLAT and ELASTIC, to say nothing about its Attractiveness, that it can not help pleasing even the most exacting.

The Tandem Interlock is a machine built in limited quantities and with extreme carefullness.—A limited production for that exclusive class of manufacturers accustomed to the best and not content with any compromise.

The Tandem Interlock is extraordinary in its ease of operation. It embodies a combination of high grade mechanical features which are unsurpassed. It requires no special brand of thread. True—it is not sold on price, but a great satisfaction to manufacturers of high priced garments.

Best of all however, you are buying the Union Special name-plate, known throughout the world.—your guarantee for fair dealing and honest manufacturing.

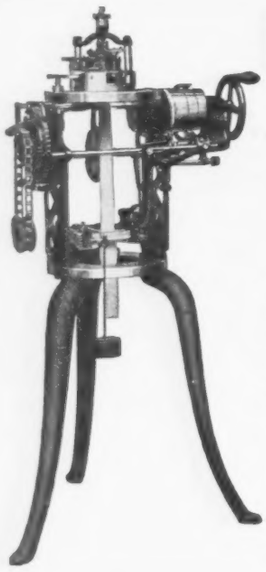
Look for the Double Locked trade mark and remember its watchword—

QUALTITY—Not PRICE

UNION SPECIAL MACHINE COMPANY

Offices everywhere.

New York, Chicago, Boston,
Philadelphia, St. Louis,
Cincinnati, Atlanta, Minneapolis,
San Francisco, Toronto,
Montreal.



H. Brinton Co.

PHILADELPHIA, PA.

RIBBERS

Single and Double Feed

with all latest improvements, such as Welt and Slack Course Selvage Welt, French Welt, Dogless attachment, Double Knee, Two-speed Drive, Yarn Changers, Automatic Stop-motions.

Built in all sizes, for all classes of rib work.

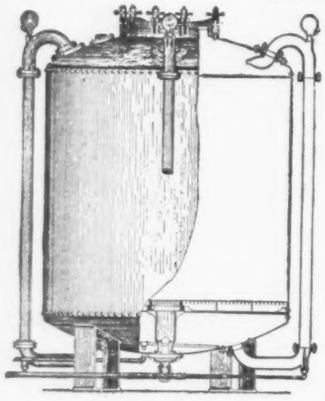
Samples and prices on request.

ALLEN PATENT KIERS

"ALLEN INJECTOR" KIER — As Illustrated

"ALLEN WORCESTER" KIER — Electric Driven Circulator with Indirect Heater

"ALLEN HYDRAULIC" KIER — For Raw Stock. Unloaded in 30 Minutes



Our new "Worcester" Kier is mechanically correct.

No live steam is admitted to Kier.

Let us show you why we can obtain absolutely uniform results with less consumption of steam in this type of Kier.

Many of the largest mills of the country are installing these Kiers.

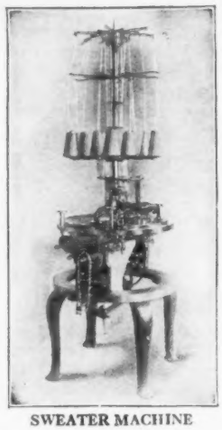
Let us show you how you can improve on your present system.

Write us.

WORCESTER STEAM BOILER WORKS

Wm. Allen Sons Co., Prop.

WORCESTER, MASS.



SWEATER MACHINE

Sweater and Toque Machinery

We announce to the knit goods trade that both our new Latch Needle Sweater and Toque Machines, after severe and protracted tests, have proven unqualified successes.

Sweater machines knit plain, half, and full cardigan, stripe, rack and have separating course.

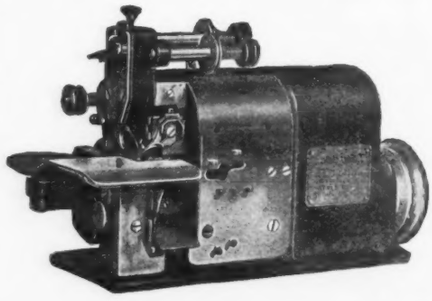
Toque machines automatically stripe three colors on ribbed fabrics.

TOMPKINS BROS. CO.

TROY - - N. Y.

Established 1846

USE THE MERROW OVERSEAMING MACHINES



For finishing fabrics in One Operation

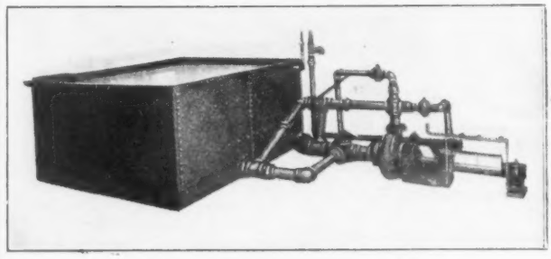
THE MERROW MACHINE CO.

HARTFORD, CONN.

—Showrooms—

467 Broadway, New York
6th & Arch Sts., Philadelphia
815 W Van Buren St., Chicago
1019 E. Baltimore St., Baltimore, Md.

HOSIERY DYEING SULPHUR BLACK



With the demand for sheer hosiery, there followed a demand for a machine that would dye it without injury. The advantages of the Uniform Machine do not end here. One man will attend 3 machines, with a capacity of 3,000 lbs. or more daily.

By circulating the liquor through the stock, without pressure, after singeing is avoided and a further considerable economy results from the concentrated bath.

Made in all sizes up to 500 lbs.

By a simple means different grades and lots remain separated throughout.

We will dye samples for and show the machines in operation to all interested.

UNIFORM DYEING MACHINE COMPANY

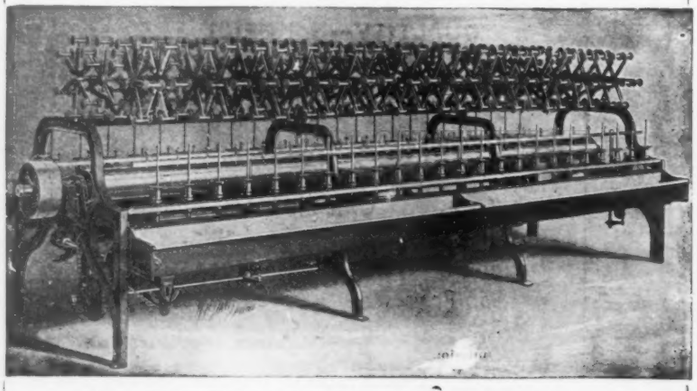
Owned and Operated by the Management of Hunsong Dyeing Machine Co.

Groveville, N. J.

EASTON & BURNHAM MACHINE CO.

PAWTUCKET, R. I.

HIGH **SPINDLES** SPEED

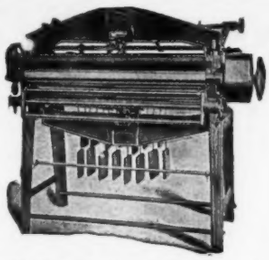


IMPROVED UPRIGHT SPOOLERS

TO SPOOL FROM COP, SKEIN OR BOBBIN

J. H. MAYES, Charlotte, N. C., Southern Agent

CONTINENTAL LATCH NEEDLE CO.
NEW YORK
THE WORKMANSHIP AND QUALITY OF OUR GERMAN NEEDLES ARE UNSURPASSED OUR SCREW RIVET DOES NOT GET ROUGH OR LOOSE.
LARGE STOCK OF NEEDLES FOR ALL AMERICAN AND FOREIGN KNITTING MACHINES
N.Y. OFFICE 120 LIBERTY ST.
WORKS, EBINGEN, GERMANY



50% Better than ever from YOUR standpoint

SEVERAL NEW FEATURES

have been added to the "1912" Cloth Cutting, Folding and Winding Machine which **add at least 50 per cent. to its value to YOU.**

It will cut your cloth—fold the edges—roll it up and give you an exact measurement of every piece of cloth going through the machine.

It saves time, labor, machine and cloth.

YOU ONLY NEED ONE MACHINE where before it required two, and you get an **extra** strip from every bolt of cloth.

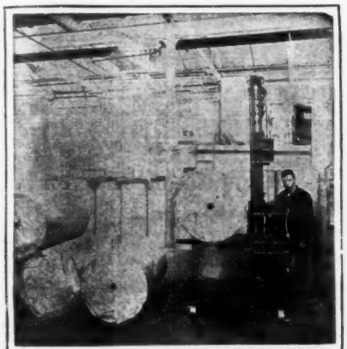
It cuts the corners of expense in every way, and leads to **more and greater profits.**

THE ENORMOUS SAVINGS WILL INTEREST YOU.

J. A. FIRSCHING

614 Broad St., Utica, N. Y., U. S. A.

Dept. "B"



How to Pile ROLLS!

Rolls of any kind of material may be piled quicker, better, cheaper, safer than by the main strength method if you use the

REVOLVATOR Reg. U. S. Pat. Off.

Write for bulletin T. W.-27

N. Y. Revolving Portable Elevator Co.

340 Garfield Ave. Jersey City, N. J.

187

New Jersey Textile Wire Stitcher

Highest Grade

Machine for rapid and Economical Method of Attaching Labels to Hosiery or other Garments.

Uses pointed staples, cannot tear the finest fabric

Send for Catalogue

J. L. Shoemaker & Co., 15 S. Sixth Street PHILADELPHIA

L. T. IVES CO.

Established 1874. Manufacturers of all kinds of

Spring Knitting Needles

Slides, Sinkers, Jacks, Etc.

NEW BRUNSWICK, N. J.

ENGLISH COTTONS ADVANCE

(*Continued from page 38*)

better supported by the overseas demand than the weaving division, the exports of yarn for the year 1915 reaching 188,178,700 lbs., nearly 10,000,000 lbs. increase over 1914, when the exports were 178,496,800 lbs., and coming within 22,000,000 lbs. of 1913, when the exports were 210,099,000 lbs. The chief increases in exports over 1914 were 34,593,000 lbs. to France and 16,606,000 lbs. to the Netherlands.

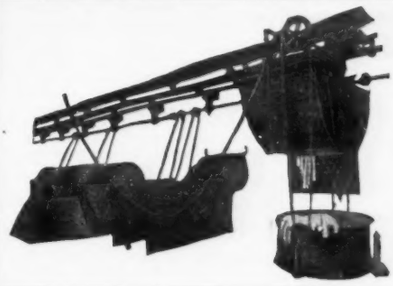
DECREASED PIECE GOODS EXPORT

Exports of piece goods, on the other hand, showed a material falling off last year compared with 1914, and were but 33 per cent. of the exports of 1913, the respective totals being 4,748,904,600, 5,735,744,500 and 7,075,252,000 yards. India was responsible for 40 per cent. of the 1915 exports, but nevertheless showed a decrease of 687,864,000 yards compared with 1914. Another large falling off was China, with a decrease of 202,695,000 yards. The principal increases were 202,584,000 yards to France, 40,849,000 to Egypt and 34,194,000 to Argentina. Piece goods have, however, had to follow the upward course of yarns, although never on an average abreast with them. Ordinary demands, however, have always been checked in their expanding tendency by rising prices. Within the last month there has been a good example of this. Large orders came forward from India for the lighter weight fabrics, jacconets, mulls, dhooties and others; for two weeks considerable business was put through, but for the last ten days this buying has been arrested by higher prices based on the higher quotations for yarns. India has also increased the volume of bidding for such staples as shirtings and raised its buying limits from time to time, but results have been meager, there constantly being a gap between the ideas of buyers and sellers. China has continued to disappoint. Internal conditions may account for this, but there is a growing belief that competition from other quarters, Japan being freely mentioned, is steadily telling against Lancashire trade with China. Dyeing difficulties at all events are peculiarly an impediment to full business with China, but this is not confined to Lancashire alone. South America particularly has given encouraging signs of revival, but here, too, the price situation is obstructive, many orders coming to hand after the market has moved away from the buying limits. As already mentioned, army requirements have throughout been a support to the heavier end of the market.

Printing cloths have been kept from accumulating only by reduced output, a large number of looms being idle in Blackburn, the main center of print cloth production. Since the beginning of the year 8¼-lb. shirtings have advanced 6 to 9d.; 14-lb. drills, 4½ to 6d., and printing cloths (32s x 40s yarn), 1s. per piece.

INDUSTRY'S MANY DIFFICULTIES

Lancashire troubles are not confined to contending against the vagaries of the cotton market. Home and export business is even increasingly interfered with by dislocation of inland transportation facilities, with serious delays in deliveries of raw material to mills and of yarns and cloths, while exports have to face continual shrinkage of and continual advances for freight room, with high insurance and high cost of all supplies added. Above all, the industry is menaced by what may readily prove a disastrous shortage of labor. Much machinery is already idle, not so much from lack of business, but from the drain of men for military uses.



SULPHUR BLACK

FOR HOSIERY

DYEING MACHINERY and BLEACHING MACHINES

Circulating Dyeing Machines. For Hosiery, Underwear, Raw Stock, and Rags. Singeing Machines for Hosiery. Mercerizing Machines.

Smith, Drum & Co.

Allegheny Ave., below 5th St. Philadelphia, Pa.

FRIEDBERGER-AARON MFG. CO.

Leading Manufacturers of

BRAIDS *and* EDGINGS

for trimming Knit underwear

MILLS: WAYNE JUNCTION, PHILA.

Post Office Address: Logan Station, Philadelphia

ECONOMY, REDUCTION OF FREIGHT RATES AND METHODS FOR SUCCESSFUL COMPETITION

on long distance shipments fully covered in our NEW ILLUSTRATED CATALOGUE covering the most complete line of Baling Presses and Waste-reclaiming Equipment in the world.

RICHARD L. BINDER, *Pres.* **K & B CO.** 25 North 7th Street PHILADELPHIA

PROMPT SERVICE RIGHT PRICES

BONE DRY HOSIERY FINISHING BOARDS

THAT WORK ABSOLUTELY SMOOTH

JOS. T. PEARSON

1825 E. Boston Ave. Philadelphia, Pa.

WANTED.

Bath Robe Cuttings.

Sweater Yarn Waste.

Sweater Clips.

Skirted Black Worsteds.

Skirted Brown Worsteds.

Skirted Gray Worsteds.

Remnants, new or old, Cassimeres or Unions, about 1,000 lbs., remnants that will cut a circle at least 14 inches in diameter.

Remnants from Counterpanes or Marseilles Quilt Cloth, bleached.

Remnants of White Cotton Canvas, large and small sizes.

Brown Vat Wool.

New White Cotton Shirt Cuttings, also New Fancy Cotton Shirt Cuttings, suitable for bleaching purposes for writing paper manufacturers.

25 to 50 bales Soft White Cop Waste, suitable for spinning purposes and breaking-up purposes, also 5,000 lbs. weekly additional.

CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

FOR SALE.

No. 6103/6105, Bleached White Hosiery Clips, about 70,000 lbs. during the year. Open for offers.

No. 6163/6165, consisting of output of three Southern mills for the year, similar clips. Production estimated at 100,000 to 250,000 lbs. during the year. Samples upon application.

CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

*SHELBURNE FALLS, MASS. Further increases will not be made at present at the plant of the Ashoyton Knitting Co., knit neckwear, caps, gloves, mufflers and novelties, which recently installed a new machine, as noted.

An Accurate and Sensitive Balance for Textile Use

B2269

Style No. 5020

Working parts and graduated beam enclosed in glass metal case.

For further particulars mention Style No. 5020.

Torsion Balances used by National, State and Municipal Governments. United States Appraisers Stores, Manufacturers and the trade. *Write for Textile Pamphlet.*

THE TORSION BALANCE COMPANY

Factory, Jersey City, N. J. Office, 92 Reade St., N. Y.

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MACHINERY FOR

MAKING CONES

Cop Tubes and Straight Shells

For textile and manufacturing purposes

Knitting looms for millinery, dress and upholstery trimmings

JOHN EPPLER MACHINE WORKS

629-631 Filbert St. PHILADELPHIA, PA.

FULL AUTOMATIC KNITTING MACHINES

Yarn Changers and Platers

For Seamless Hosiery

Easy Transfer

Accurate Measuring Device

Produces Finest Fabrics

PAXTON & O'NEILL

3rd and Green Sts. PHILADELPHIA, PA.

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WOOLENS WORSTEDS BROADCLOTHS

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RICHARDSON BROTHERS
51 and 53 FRANKLIN ST., NEW YORK
FINE COLORED WRAPPERS
DUPLEX SILK WRAPPERS
"ROYAL" PRESS PAPERS
TWINES AND SPECIALTIES
FOR TEXTILE FINISHERS

M. STEINTHAL & Co.
219 GREENE ST., N. Y.
TELEPHONE 4420 SPRING
CLOTH SAMPLES CUT, LABELED, NUMBERED, BOUND, PRESSED AND BOOKED
Sample Cards of Every Description
Piece Goods Tickets. Gum Labels
Pin Tickets. Fasteners

GOLD MEDAL
USWOCO FABRICS

JOHN SIMSON, Vice-Pres. ANDREW ADIE, Pres. C. W. SOUTHER, Treas.
United States Worsted Co.
BOSTON and NEW YORK
Has been awarded the Gold Medal by the Panama-Pacific International Exposition.
This is the highest Award given to exhibitors, and is an absolute assurance of the superiority of Uswoco Fabrics in style, design, quality of materials and excellence of manufacture.
Standard Dyes are now used in all fabrics ordered for Spring, 1916.
ALL LINES COMPLETE
NEW YORK OFFICE AND SALESROOMS
257-261 Fourth Avenue, at 21st Street
J. B. KIRKALDY, Selling Agent

D. R. KENYON & SON
Raritan, N. J.
MANUFACTURERS OF
Tentering and Drying Machines
CRABBING MACHINES, FULLING MILLS
CLOTH WASHERS, DYEING MACHINES AND
CHINCHILLA MACHINES

There is Nothing "BRAND NEW" about our experience, methods or our record for honorable dealing. They go back OVER FIFTY YEARS. On the above basis we offer you FEEDERS for cards, pickers and wool washers that have stood the test and are not "Brand New" in the sense that you have to experiment with any of our machines in your mill.
GEO. S. HARWOOD & SON, 53 State Street, BOSTON, MASS.

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Commission Merchants
23 Thomas Street 229 Fourth Avenue
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SCHEFER, SCHRAMM & VOGEL
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315 FOURTH AVENUE, NEW YORK
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Finance Manufacturers' Accounts, Selling Direct or Through Agents
Discount and Guarantee Sales

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Commission Merchants
83-85 WORTH STREET, NEW YORK
WORSTEDS and WOOLENS
WOOLEN DRESS GOODS and CLOAKINGS
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Raw Materials, pages 84, 85

Wool Manufactures

Machinery—Processes—Fabrics—Costs—Market Reports

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CASSIMERES ARE SOLD UP AND WITHDRAWN

Lines of Worsteds Opened—Several Mills Allot Their Product to Discourage Overbuying

The men's wear market, though far from quiet during the week, has lacked the extreme activity of preceding weeks, and buyers have been at a loss in some instances to keep their time fully occupied. A few openings have been announced but the major part of these have occurred during the latter part of the week, the first three days producing little of interest. One of the factors that renders it difficult to analyze the situation is the large number of lines that have not been opened and never will be, as they have been shown under cover and the production of the mill entirely sold up without ostentation.

Despite the fact that comparatively little effort has been required on the part of salesmen to market the production of their mills, the situation has many unpleasant features and certain salesmen are in an extremely uncomfortable position. Due to shortage of dyes or to some other cause, several mills have given their agents instructions to market a certain quantity of merchandise and withdraw the line. There are, of course, certain cases where such a course is entirely justified by conditions over which the manufacturer has no control, but buyers are prone to take the view that in many instances such action is taken solely with a view to marketing the balance of the product at enhanced prices. While they do not question the ethics of such a procedure, the buyer who did not get his order in at the opening price naturally feels that his competitors have, in a measure, obtained an undue advantage.

QUANTITIES ALLOTTED

The method adopted by several houses for securing an equitable distribution of their merchandise is by means of allotment, the yardage purchased during the last two seasons being used as a basis for estimating the quantity to be sold each customer. This tends to curb the tendency toward overbuying that has been so prevalent and should do much toward stabilizing conditions that are unparalleled in the trade. Thus far operations in fancies have been confined to overcoatings, cassimeres and manipulated worsteds almost entirely, the present week seeing the first formal openings of fancy worsteds. The inevitably high prices that will be demanded for the latter goods have raised the question as to the relative distribution of wool and worsted cloths, a few taking the position that the large yardages of woolens sold presaged a lesser interest in worsteds. If the success of the lines thus far shown is to be taken as a criterion, there is no doubt that the market is disposed to absorb the entire product of the domestic looms. One factor that apparently has not entered into the calculations of these prophets of gloom, is the absolute lack of competition from abroad, the domestic market for the first time in a long period of years being dependent on the product of domestic manufacturers. Another feature of present conditions that should result in much ultimate benefit to the domestic manufacturer is the disabuse of the idea that foreign textiles are necessarily superior in quality to those produced here. There is no dearth of fine goods and as imports are practically nil, the corollary is that the high grade goods are the product of domestic mills, a fact well known to every one conversant with the textile industry.

OVERCOATINGS WITHDRAWN

The bulk of the overcoating business has been placed on the books, the majority of the mills specializing on fabrics for this trade having sold up and withdrawn their lines. Medium and low grade goods are now out of the market entirely, the finer grades have met with very gratifying success and these are likely to be withdrawn in a comparatively short time. Some very attractive styles have been shown in combination cloths, worsted face with wool backs, or worsted warp and wool filling. Special fabrics for the cap trade are becoming more and more a factor in the woolen business and an increasing number of mills are bringing out fabrics and styles specially adapted for use in this division of the market. Most of these cloths are developed in coarse yarns, many of them containing a large percentage of novelty twists, the patterns usually large over plaid effects.

MEN'S WEAR TRADE NOTES

Lambert Huntingdon has opened a line of twist suitings at 80c. regular and Vendome suitings at 90c. for fall, 1916.

Battey, Trull & Co. are showing Pawcatuck wool suitings for fall, 1916.

The Peace Dale Manufacturing Co., B. R. Jacobs sales manager, opened on Thursday lines of skein dyed and mixture fancy worsteds.

Baruch Wolff & Co. opened on Tuesday a line of 30-inch trouserings at 37½c. net.

William Wood & Co. opened on Monday lines of fancy worsteds, ranging in price from $1.54 net to $1.69 net per yard. These are all new fabrics.

Montrose Worsted Co. will open next week full lines of clear and unfinished fancy worsteds, also lines of double and twist woolens and Saxony finished woolens.

The Coronet Worsted Co. opened on Wednesday its fancy worsted lines at $1.47½ to $2.12½ per yard.

Henry M. Heubshman & Co. are showing full lines of serges from 97½c. to $1.62½ regular, for fall, 1916.

La Porte Woolen Mills, Sachs, Sanger & Salomon selling agents, opened lines of cassimeres at $1.25 to $1.50.

Metcalf Bros. & Co. have opened their lines of serges with prices as below for fall, 1916.

	Black.	Blue.
386 16 oz.	$1.95	$2.02½
386	1.80	1.87½
354	1.75	1.82½
350	1.70	1.77½
366	1.65	1.72½
333	1.60	1.67½
349	1.55	1.62½

Henry W. T. Mali & Co. opened on Tuesday lines of Olympia fabrics, all standard dyed, also their lines of Stafford, Monterey and Shetucket cloths. Prices on these lines range from $1.12½ to $2.37½ per yard. The legend "standard dyed" lent an added interest to the announcement of this opening, and the showrooms were crowded with buyers until well toward midnight of the opening day.

Dyestuff distribution apparently has

(*Continued on page 76*)

RAGS RELATIVELY HIGH

Demand for Solid Colors—Shades Obtained by Blending Stocks

The disparity in relative prices of wool and substitutes, or more especially the rags from which the substitutes are made, is one of the features of present day conditions which is likely to create a false impression on the mind of the layman. At first thought the abnormal rise in the price of rags might be taken as an indication that fabrics for the coming heavy-weight season are to be made largely from inferior materials, but this is not the case. Most rags used during the year have gone into fabrics exported for military purposes, rather than into cloths for domestic consumption.

SOLID COLORS MOST COSTLY

A survey of the course of prices in the rag market will reveal the fact that the highest prices are quoted on stocks of certain colors that may be used for the production of fabrics without being again put through the dyeing process, a factor of no little importance when the acute shortage of coloring matter is considered. By a judicious selection of rags it is entirely feasible for the manufacturer to develop a satisfactory line of shades and mixtures with the use of a minimum amount of newly colored stock. It is, of course, imperative that only fast colored rags be used for this purpose, or the results will be far from satisfactory and the finished goods have a decidedly mottled and washed out appearance. Another important item is the use of as large a batch as can be handled conveniently, as it may be a matter of difficulty exactly to match the shades with a second batch.

STOCK BLENDING FOR SHADE

Producers of cotton warp cadets and similar cloths have by long practice become particularly expert at this stock manipulation. More than one mill of this character has no facilities of any kind for dyeing, depending entirely on the proper blending of the rags for obtaining the desired shade. Graders have long been cognizant of the increased value of properly assorted stocks, both as to quality and color, and the majority of them are prepared, under normal conditions to deliver stocks that require no sorting at the mill to secure the shade desired. In the case of cadets the shade is readily changed by the admixture of a percentage of solid blue or light blue mixed stock to throw the blend either darker or lighter. In the preparation of stocks for the manufacture of cassimeres or other all wool cloths, the rags must be carefully sorted as to color, the slight change in the shade of the blend being made by coloring the wool used for the balance of mixture to a lighter or darker shade as the requirements of the case may be.

There is a widespread misapprehension as to the value and capacity for service of cloths made in part from substitutes, due in great measure to the propaganda of certain well meaning but ill advised individuals and associations. As a matter of fact many of the fabrics produced from these stocks are calculated to give greater service to the ultimate consumer than would fabrics made wholly from certain types and grades of newly shorn wools.

SPRING GOODS ARE CENTER OF INTEREST

Duplicates Still Heavy—Fall Staples Well Received—Skating Cloths Still in Demand

Interest in the dress goods market is still centered largely on spring goods whereas usually at this period of the year both buyers and sellers are devoting most of their attention to preparations for the fall trade. Manufacturers are particularly pleased with this condition of affairs, as the lighter weight of the fabrics and the predominance of white and light colors permit of producing a greater yardage with a relatively lesser quantity of dye, a factor of no little importance under the circumstances. The continued strong demand for spring goods is considered an excellent indication of improved business conditions throughout the country and is generally thought to presage an active fall demand.

Duplicate orders are offered in many instances for larger yardages than the mills care to accept, and in more than one instance the buyer has been informed that his order has been reduced 50 per cent. Several cases of this character have been reported by different houses during the week, the majority of them occuring on fabrics in part of cotton, the difficulty being the inability to secure the needed quantities of fast black cotton. Black and white checks in varied sizes are perhaps the fabrics in greatest demand both in part cotton and all wool goods, both worsteds and woolens. Clear finished cloths are still in excellent demand, but there is a strong tendency toward the velour type and it is more than probable that velours will be the leading fabric in fall weights.

STAPLES SOLD IN VOLUME

Recent openings of staples by the leading corporations have been the subject of considerable comment in the trade. Criticism of prices named on a few numbers is more or less general, though quotations on most styles are about as expected. A few cloths brought out at what appear to be remarkable values are held to be much less attractive than the price alone would indicate when opportunity is afforded for examination and comparison. Serges have been purchased freely, several concerns having all the orders they care to accept, one in particular being reported to have its production for the balance of the year under order. Factors in the cotton warp serge production have their output well under engagement and in a few instances have withdrawn their lines.

Poplins appear to retain their strong position and are expected to have a prominent place in fall lines yet to be opened. Gabardines are in good demand, a change in name to "Poiret Twill" possibly lending an added attraction to this recognized staple. Practically none of the fancy lines for fall has as yet been placed on the market, in fact, many houses state that lines are not nearly ready even were they disposed to show them. Probably Feb. 15 will see fancy goods displayed by many concerns.

FALL LINES IN PREPARATION

Just what type of fabric will prove most attractive for fall is a question

WOOL MANUFACTURES—Continued

of paramount interest to mill and salesagent. Velours in solid colors and checks are likely to occupy a strong position and there will probably be interesting developments in this direction. It is more than probable that a statement to the effect that eponges will again achieve popularity would be greeted with more or less derision, but nevertheless there is good reason to think that there is considerable truth in such a prophecy. Naturally it will not be the eponge of a year or two ago but a novel development of this idea which is likely to prove unusually attractive.

CLOAKINGS SOON TO OPEN

Novelty cloakings are due to open in the near future, and if some of the woods seen are a fair sample of the general offerings, it is putting it mildly to say that the coming fall season will see the finest display of styles that has been made in many moons. Combinations of various fibers have been made to obtain the desired effect, one line in particular employing silk, wool and cotton, the result being an especially handsome cloth. Skating cloths are still in the forefront.

DRESS GOODS TRADE NOTES

Several lines of cloakings for the new fall season are developed in double cloth effects. Rough faced effects in Shetland or Whitney finish, with striped or plaid backs are to be shown by several houses.

Some attractive cloths are seen in cotton warp fabrics, the weave employed giving the appearance of a check in which knot and slug yarns are used for the decorative features. By clever manipulation of the weave the fabrics have the appearance of an all wool cloth.

For skating costumes an attractive combination is a striped coat and a skirt of large plaid cut on the bias. Many of the skirtings are made with bright over-plaids in reds and greens.

New coatings are seen with solid warp and filling of contrasting colors, the plain effect being relieved by a break in the weave. A stripe of plain twill is alternated with a stripe of four and four or six and six chevron, the combination of weave and color giving a pleasing effect of a wide stripe.

J. P. Stevens & Co. will open on Monday, full lines of suitings and novelty coatings at prices ranging from 95c. to $2.50 per yard.

MEN'S WEAR TRADE NOTES

(*Continued from page* 75)

been extremely inequitable, as while many manufacturers are protesting their inability to secure supplies at any price, other mills seem to have obtained quantities sufficient to carry them through the present season, and have a reserve for spring, 1917.

Fancy worsteds, though not formally opened as yet, are being shown sub rosa by several houses, and if rumors are to be credited, a satisfactory amount of business has been accomplished, even though prices are on a level that place many lines beyond the limit set by the popular-priced clothing manufacturer.

The American Woolen Co. has accepted an order for 600,000 yards of khaki cloth from Canada, according to report. This will give employment to a thousand looms for about a month.

The American Woolen Co., Dept. 3, opened on Friday lines of wool suitings. On Monday, Dept. 1B will open lines of mixtures, price dyes and vigoureux; Dept. 2 will open all worsted fancies.

Geo. H. Gilbert Mfg. Co. opened on Friday their lines of fancy worsteds for Fall, 1916, at $2.00, $2.15 and $2.42.

PHILADELPHIA WOOL TRADE

(*Continued from page* 19)

which could be successfully maintained without protection.

The following resolutions were unanimously adopted:

WHEREAS, The number of sheep in the United States is showing a decided and alarming decrease, thus affecting unfavorably the supply of wool and meat needed for our domestic consumption, and

WHEREAS, It seems highly important that this situation should be thoroughly understood and that action should be taken to increase supplies so vital to the welfare of our people, it is hereby

Resolved, That the Executive Committee of this Association be and is hereby instructed to invite the co-operation of all trade bodies that are especially interested for the purpose of awakening the public generally to their interest in this matter as an economic proposition; that said Executive Committee shall confer with the authorities and the Legislature of the State of Pennsylvania to obtain the passage of laws which shall restrict and control the ownership of dogs and in addition educate the farmers to the necessity and advantages of sheep as a profitable industry and in all ways possible encourage in this State the raising and maintenance of sheep; and, moreover, that the said Executive Committee shall take such further steps as may be needed to enlist the co-operation of the authorities and the Legislature of other States for the same purpose; and, moreover, that the Congressmen from this State be asked to co-operate to obtain the assistance of the National Government for this purpose, and be it

Resolved, That a copy of these resolutions be mailed to each member of the Legislature of this State of Pennsylvania and to each member of the Congress at Washington.

Another matter, which was brought before the meeting by J. D. C. Henderson was a proposition to hold a big "Peace Jubilee" dinner at the close of the present European war to which every wool manufacturer in the United States should be invited. This was received with approval, and upon motion the Entertainment Committee was instructed to arrange for this event.

Mr. Webb also announced that the Philadelphia Cotton Yarn Salesmen's Association has expressed a desire to become affiliated with a general Textile Association of Philadelphia in order to co-operate with any movement contemplated for the advancement of Philadelphia. Upon motion it was decided a committee should be appointed to confer with the Cotton Yarn Salesmen's Association and take under consideration the formation of such an organization.

Those present at the meeting were: A. C. Bigelow, T. B. Hayward, R. Max Ott, Swift & Co., Chas. J. Webb, Chas. J. Webb & Co., J. D. C. Henderson, Henderson & Co., James Akeroyd, C. M. Davis, Wayne Hughes, Winslow & Co., James Bateman, H. J. Kenderdine, J. Bateman & Co., Wm. H. Folwell, Folwell Bros. & Co., Inc., Horace Bullock, Bullock Bros., John A. Leslie, John A. Leslie & Co., W. G. Davidson, H. Smith, Wm. G. Davidson & Co., E. Chester Ridgway, Francis Willey & Co., Fritz Quittner, Roosevelt Worsted Mills, John W. Levering, Erben-Harding Co., S. Loucheim, S. B. & B. W. Fleisher, Inc., Reuben Windisch, R. Windisch & Co., Warren Coffin, Coffin & Gillmore, A. Eavenson, Eavenson & Levering, Samuel W. Whan, S. W. Whan & Co., R. L. Wallace, R. L. Wallace & Co.

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FOREIGN MARKETS—WOOL, YARN AND PIECE GOODS

BRADFORD WOOL DISTRICT ABSORBED IN GOOD TRADE

Position Is Healthy and There Is No Concern Over Height of Prices —More Army Contracts

(*From Our Regular Correspondent*)

BRADFORD, ENG., Jan. 15.—Inquiries show distinctly that there is considerable business on the carpet, and much more could be done if topmakers and spinners were in a selling mood. The "sky prices" of 1899 have been passed with great equanimity of spirit, and there is apparently no misgiving regarding prospective supplies being lifted with as much ease as if wool were 6d. per pound cheaper. There have been fewer remarks regarding financial stringency than even in normal times, and the "bear" party is to-day completely overshadowed, there being a keen desire on the part of users to buy wool and turn same into tops, yarns and pieces. All mills throughout the United Kingdom are busy, and apparently Canada is now in the market for khaki fabrics, a proof that in high quarters war is expected to continue.

KHAKI PROSPECTS

The week has been quieter so far as gossip is concerned regarding khaki, but the cable inquiry to the Bradford Chamber of Commerce from the Canadian Government clearly shows which way the wind is blowing. During the week yarn orders have been placed in this district which run into big figures. It was said that the Russian Government had not finished buying at the time when it placed orders for 6,000,000 yards of 26-ounce cloth, and it is now heard on unquestioned authority that more orders are being given out for a greatcoat cloth, the weight being in the neighborhood of 36 ounces.

Prices on many side lines are going up sharply, coal is higher, leather advanced and wool grease once a drug on the market at £10 per ton is now selling at £30. The announcement by the syndicate of carbonizers of a further advance in prices to take effect Feb. 1 is significant and indicates the trend of events. Vitriol is both scarce and dear, being largely monopolized for munitions. Some think it will not be long before the government commandeers all supplies, but it will never do that providing sufficient can be made to meet the demands of the army.

LESS ACTIVITY BUT GREAT FIRMNESS

It cannot be said that the market is active, but inquiry is persistent and covers a wide variety of articles. Anyone with wool at a market price can find a buyer, and even topmakers candidly state that they prefer not to commit themselves further until they see how wool shapes in Coleman Street. There seems a feeling abroad to-day to allow values to consolidate around to-day's level rather than force them to a higher altitude. No one suggests that the danger point has been reached, but all feel that they prefer to see prices remain steady and firm on to-day's level than to push them still higher and generate feelings of temerity in the minds of the members of the trade. There are still those, however, who talk glibly of 64s tops touching 4s. Of course, if the War Trade Department would grant licenses freely and export requirements asserted themselves in a pronounced way, all classes of tops must be dearer, but that is unlikely. Licenses have been granted only sparsely during the last three weeks; a few have been forthcoming for the Netherlands and Italy, but precious few for the United States. Several were granted last week for the export of botany noils, but the shipment of tops and crossbred wool is altogether off the map, and whether the export of merinos bought at the forthcoming London sales will be allowed will depend entirely upon the granting of licenses. Applications have been made for the export of slipes, but if they are not forthcoming Bradford and London representatives of American firms will go slow in the future.

THE NEW ZEALAND EMBARGO

The reimposition of the embargo by the New Zealand Government this week was not quite unexpected, as great dissatisfaction has been felt by some users of crossbreds in this district at America's taking such weights and forcing up the market beyond the Bradford level. America looks on the matter in a different light, stating that if neutrals are permitted to buy, they must not be expected to stand aside at certain intervals to allow Bradford to take the wool it wants. There has been a good deal of discussion as to whether America has bought too much and too fast, and as is only to be expected the Bradford opinion is that American buyers have overdone things. Certainly 100,000 bales of the best wool being sold to the United States, and thus put out of the way of Bradford users, is not a pleasant experience, but there would be less discontent if Bradford was confident that all the wool that America has taken this season in the Colonies was for her own legitimate needs. Certain English wool brokers definitely assert that German-American money has been used both in Australia and New Zealand.

The embargo has been mirrored here by restrictions in the issuing of licenses, a few having been granted for slipes and noils, and a few previously granted, having been extended in time. There has been some discussion as to whether lower prices may be expected because of these export restrictions, but stocks of crossbreds in this country are light, and will be so for another six or eight weeks, while it is generally felt that the needs of Great Britain are such that the New Zealand clip will be lifted without any setback in values. This opinion has been fully confirmed by the cable received about the Christchurch sale yesterday (at which America was debarred from operating) which was practically on a par with Dunedin.

THE PIECE GOODS TRADE

The position of manufacturers is one of great strength and independence. The news to hand from the United States that trouble is taking place with customs appraisers on invoiced values of piece goods, is not relished, and many firms here feel that a gross injustice is being done them. American officials on this side of late have been active investigating the price of raw materials, tops and yarns in order to appreciate satisfactorily the fully manufactured article, and some are asking what they would do if market values fell quickly. Would they then refuse invoiced values of piece goods? So far as work is concerned, mills are all exceedingly busy, and further orders have been placed during the week both on Russian and English Government account. It is patent that all governments alike are looking after the requirements of soldiers and sailors, and Russia has been buying greatcoat cloth well over 32 ounces in weight. Among dress goods manufacturers there is also activity, but most firms are busily engaged on staple lines such as serges, and for the next 12 months only somber colors are going to be worn.

FIRST COMBING.

WOOL'S RISE IN PRICE BETWEEN LONDON SALES

Consignees Hold Back from Private Sales—Interest in New Zealand Embargo and Its Effects

(*From Our Regular Correspondent*)

LONDON, ENG., Jan. 13.—Despite the close proximity of the opening of the first series of auctions for the new year, there is little or no relaxing of the demand for Colonial wool which has prevailed during recent weeks. Buyers are still endeavoring to find in London the raw material wherewith to provide for the execution of orders which have been placed in their hands. Many manufacturers find that the wool they ought to use is out of their reach by reason of its present high cost, and hence they are driven to search about for something in the nature of a substitute which, at a pinch, will do the turn at somewhat less expense.

CONSIGNEES HOLD FIRM

Much more business could be done in Australasian produce, were those to whom shipments are consigned disposed to negotiate them by private treaty, but, influenced by the active condition of affairs, that is just what they will not do. No, they say, why are users so anxious to buy in a brief three weeks' interval between two series of public auctions if they do not fear that prices are going higher? This being so, they are of the opinion that they will best consult their consignor's interest by holding his wool for realization in the forthcoming sales. There is therefore comparatively little being done in the way of selling Australian or New Zealand grown wool, and where there are such sales, the supply generally comes out of second hands. Naturally, a man who has bought wool in the London auctions, or imported it direct from the Colonies, scarcely hesitates when he sees his way to a profit of at least 2d. per pound, and it is just this situation which causes the turnover in South African growths to be so much more extensive than in Australian.

Knowing full well what the wool has cost them on the other side and expense of freight, insurance, etc., operators are quite ready to let their holdings go when they can obtain a fair margin of profit. To judge from the prices now being asked for shipments from South Africa, scoured and greasy, the buying over there must have been erratic, but a buyer who knows his business will of course take the cheaper and let alone the dearer lots. It is always somewhat difficult in private dealing to reach a conclusion as to the extent of the advance that is being made, but, judging from what has come under the writer's personal observation, and comparing the offers in the recent public sales with the prices now being realized, it may be said that crossbreds are in average 5 to 7½ per cent. and merinos 5 to 10 per cent. dearer. The quantity admissible to the auctions is 116,000 bales, and this total will be augmented by 200 bales Punta Arenas, 850 bales Falkland Islands and 250 bales River Plate wools. According to the program the sales are to last from Jan. 18 to Feb. 5, which indicates an average daily offering of under 8,000 bales. As has been the case of late there will be no selling on Mondays, so that the number of working days arranged for is 15.

THE NEW ZEALAND EMBARGO

The minds of those engaged in the wool and worsted industries of this country continue to be greatly exercised in regard to Government action, alike as regards permission of raw material to go abroad, and as regards the extent to which contracts for military clothing are being given out. There is an atmosphere of uncertainty concerning both points, which is tantalizing to those whose most immediate concern is the best shaping of their policy for the year which has just been entered upon. Information has recently been cabled from New Zealand that the authorities there have reimposed the embargo on wool going to the United States. This, it is understood, has nothing to do with raw material already purchased for shipment, but applies only to the future. As the announcement refers to New Zealand alone many persons take it as concerning crossbred wool exclusively, but this is by no means clear, and the cables have not definitely stated that merino qualities are not included in the ban. So far the re-imposition of the embargo in New Zealand has exercised no effect on prices, and users in this country are disappointed. They have been looking for some time to see the step taken which has just been announced, and hoped for an easier market afterward. Wools in New Zealand quite maintain their position, however, and instead of crossbred tops becoming more available they, especially in "preparing" sorts, are dearer to buy. To the chagrin of users the important step for safeguarding supplies for the benefit of the industry in this country, seems to have been taken too late in the day, for, while future arrivals will, during the course of the season, be lessened by what America, other neutrals and this country's allies have secured, the requirements of the industry in Yorkshire, Scotland, etc. are scarcely likely to be reduced in the same proportion. Uncertainty is felt as to what the United States will do with the crossbred wool it has secured. Will the holders be able to carry what is not required by the mills of America until the end of the war, or will they, disappointed by the dragging out of hostilities, and fearing the weight of continuously increasing charges, elect to forward it to Europe, either to purchasers in the manufacturing districts, or for realization at the public auctions? Will these American holdings coming to Europe later on depress values, or will the cutting off from this country of so large a slice of the crossbred production cause prices to rise to a height not seen since the period just following the Franco-German war of 1870?

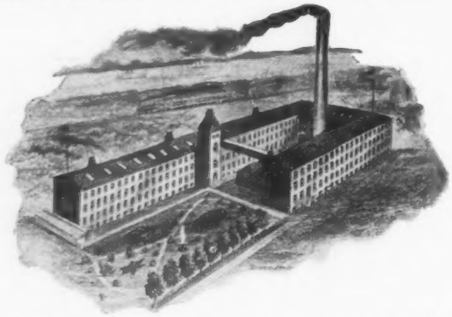
UNCERTAINTIES OF WAR OFFICE

To what extent the War Office is planning to place contracts for military clothing, is shrouded in mystery. That orders have been given out is undeniable. Flannel makers, for instance, are full of business, not only for the requirements of their own country, but likewise for the Governments of France, Italy and Russia. How the needs of the civilian population of this country are to be met is a problem, the solution of which is not apparent. It is certain that the War Office, in addition to previous commitments, is now calling for tenders for the furnishing of military clothing and equipment of various kinds, and yet it is asserted in many quarters that the authorities had given it to be understood that they are amply furnished with soldiers' and sailors' clothing for almost a year ahead. Is this done with a view to damp down the booming tendency of wool? In view of the state of the markets at present, it seems likely that this is done to calm down the booming tendency of wool.

COPT.

HOWLAND CROFT SONS & CO., Linden Worsted Mills, CAMDEN NEW JERSEY

Represented by FIRTH BROADHEAD, 937 Banigan Bldg., Providence, R. I.



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Men's Wear, Dress Goods and Knitting Trade both in Grey and Mixtures

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YARNS

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FINE FRENCH SPUN WORSTED YARNS

Of Every Description for Knitting and Weaving

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JAMES DOAK JR. COMPANY

WORSTED SPINNERS

KENSINGTON PHILADELPHIA

YARNS—WORSTED, WOOL, MERINO

QUOTATIONS

WORSTED YARNS—BRADFORD SYSTEM.			
2-12s to 2-16s low common....	85	@	87½
2-20s to 2-24s low ¼.....	87½	@	90
2-20s to 2-25s ¼ blood.....	90	@	92½
2-20s to 2-28s ¾ blood.....	92½	@	95
2-32s ¼ blood.....1	00	@1	05
2-20s ⅜ blood.....	97½	@1	00
2-26s ⅜ blood.....1	02½	@1	05
2-32s ⅜ blood.....1	02½	@1	07½
2-36s ⅜ blood.....1	12½	@1	15
2-28s ½ blood.....1	15	@1	17½
2-40s ½ blood.....1	22½	@1	25
2-50s 1	26	@1	30
2-40s Australian, 70s quality..1	20	@1	22½
2-50s Australian, 70s quality..1	30	@1	32
2-60s Australian, 70s quality..1	37½	@1	42½
3-24s lustre.....	Nominal.		
3-28s lustre.....	—	@	—
3-30s and 3-32s lustre.....	95	@	97½
3-36s lustre.....1	10	@1	12½
FRENCH SPUN YARNS.			
1-20s quarter.....	97½	@1	00
1-20s high quarter.....1	00	@1	02½
1-20s ⅜ blood.....1	02½	@1	05
1-20s high ⅜.....1	05	@1	07½
1-30s ⅜ blood.....1	12½	@1	15
1-20s ½ blood.....1	10	@1	12½
1-30s ½ blood.....1	12½	@1	15
1-40s ½ blood.....1	17½	@1	20
1-50s delaine.....1	22½	@1	25
1-40s Australian.....1	15	@1	17½
1-50s Australian.....1	27½	@1	32½
1-60s fine Australian.....1	42½	@1	45
1-70s fine Australian.....1	45	@1	47½
WOOLEN YARNS.			
12 to 16 cut, ¼ blood worsted waste and shoddy.....	62½	@	65
12 to 20 cut, ¼ blood and shoddy (colors).....	67½	@	72½
12 to 20 cut, ¼ blood and noils (white).....	77½	@	82½
11 to 20 cut, ¼ blood and noils (colors).....	72½	@	75
20 to 28 cut, straight, ¼ blood (white).....	80	@	82½
20 to 28 cut, straight, ⅜ blood (white)	95	@	97½
From 20 to 28 cut, add 1c. per cut.			
32 cut, fine white carbonized..	—	@1	00
40 cut, fine white carbonized..1	12½	@1	15
2-12 to 2-18 cut, ¼ blood, worsted waste and shoddy	57½	@	60
2-18 to 2-20 cut, in grease....	67½	@	70
2-18 to 2-20 cut, in colors.....	77½	@	80
2-22 to 2-24 cut, skein dyed in colors	77½	@	80
8 to 20 cut, blk, wool spn, cotton	22	@	25
MERINO YARNS.			
12 to 16 cut, 50 to 50, wool and shoddy.....	35	@	37½
12 to 24 cut, 75—25.....	55	@	60
12 to 20 cut, 40—60.....	52½	@	55
28 cut, 50—50, colors and mixes	60	@	62½
42 cut, 50—50, white, mixes and colors.....	70	@	72½
42 cut, 70—30, white, mixes and colors.....	75	@	80
12 to 25 cut, 85—15, ⅜ blood.	80	@	85
KNITTING YARNS IN OIL (WORSTED). BRADFORD SYSTEM.			
Dyed prices nominal.			
2-8s to 2-10s, ¼ blood.....	87½	@	90
2-11s to 2-20s, ¼ blood.....	92½	@	95
2-20s to 2-30s, ¼ blood.....	97½	@1	02½
2-16s to 2-20s, ⅜ blood.....1	00	@1	02½
2-18s to 2-24s, ½ blood.....1	07½	@1	10
2-26s to 2-30s, ½ blood.....1	10	@1	12½
WOOLEN KNITTING YARNS.			
Dyed prices nominal.			
Up to 2-15s dyed.....	87½	@	90
2-15s to 2-23s dyed.....	92½	@	95
Up to 2-15s double bleached..	87½	@	90
2-15s to 2-23s double bleached	90	@	92½
Coarser numbers in 10s and lower, 2s less.			
2-16s to 2-20s cut Oxford....	77½	@	82½
2-21s to 2-23s cut Oxford....	80	@	85
CARPET YARNS.			
Prices are nominal.			
60-yd. double reel, wool filling	—	@	36
No. 2 60-yd. double reel, filling	—	@	33
First quality, ⅝.....	—	@	24
Second quality, ⅝.....	—	@	22
60-yd. double reel cotton filling skein.....	—	@	14
(On cops).....	13½	@	14½
Extra best.....	15½	@	16
Wool Ingrains, 42-yd.:			
Common	8½	@	9
Medium	10½	@	11
Best	14	@	15
Extra best.....	14	@	15
Light supers.....	16	@	17
Super jute, 42-yd.....	—	@	9
Super jute (high), 42-yd.....	9	@	10
Velvet wool, sun, 125-yd, white	—	@	38
Gray	—	@	30
In Worsteds:			
16s 2-ply for ingrains, white	63	@	64
16s 2-ply light gray.....	61	@	62
16s 2-ply dark gray.....	—	@	—
13s 2-3 tapestry.....	67	@	68
16s 2-3 Brussels, white.....	69	@	70
16s 2-3 Brussels, light gray..	67	@	68
JUTE YARNS.			
For carpets and rugs:			
6-lb.....— @15	13-lb.	...10¾	@11¾
7-lb.....— @14½	14 to 16-lb.	11	@11¾
8-lb.....— @13½	17 to 18-lb.	11	@11¾
9-lb.....— @13¼	19 to 24-lb.	11	@11¾
10-lb.....— @13	25 to 50-lb.	10¾	@11½
11-lb.....— @12½	50 & over..	10	@11
12-lb.....11½ @12			
For plied yarns from 12 lbs. and upward, ½c., and under 14 lbs., 1c.			
Venetian yarn, 11 to 12-lb., 2-ply, gray in skein, 10 cts.; black in skein, 11½ cts.; black in cops, 12 cts.			
For Smyrna Rugs.			
Rolls .....—	@11¼		
Cops .....—	@12¾		

WORSTED YARNS RULE FIRM AT ADVANCED PRICES

Spinners Refusing Further Orders—Higher Prices Expected—Difficulty in Deliveries

Conditions in worsted yarns have reached the stage where dealers are forced to turn away much of the business offered them, because of the sold up condition of spinners which prevents their making the deliveries required. At the same time they are not anxious to tie themselves up with business too far in advance. Many customers, it is said, have been making efforts to buy yarns for late in the season, but not every spinner is willing to consider such a proposition now. Therefore the market, as a whole, is showing a strong front as regards prices. Spinners control the situation completely, and buyers find themselves obliged to meet the best terms offered them, provided they can secure the yarns they need. It is, therefore, not so much a question of prices as of delivery.

MILLS WELL ENGAGED

Manufacturers find themselves in receipt of good orders since buyers of fabrics are almost " buying their heads off," as one factor expressed it, in their efforts to secure goods. As it is, many mills are turning down offers made them of good sized lines because they feel they have all on their books they can conveniently handle, even providing for possible cancelations. There is not so much talk of the possibility of cancelations to-day as there was; it is more the probability of delivering the goods when needed. The trade as a whole therefore feels in an optimistic mood. Dyes continue to cause a pessimistic tone, but in spite of this the market is moving onward and upward from all appearances.

PRICES ADVANCING

Both men's wear and dress goods mills are showing interest in yarns today, with the latter of course playing the leading part. Many of those mills which delayed their purchases find it has been a rather expensive proposition for them, as they have had to pay top prices in order to get yarns, and also find it anything but easy to get yarns when they need them. Prices are steadily advancing, and sales usually mean a further advance to a higher level. Many predict before long manufacturers will be paying a good premium for yarns, even above the prices of to-day, which a month or so ago would have been considered out of the question by buyers. Sales of 2/40s half-blood Bradford system have been made at $1.20, but buyers admit they could not duplicate them today, as spinners ask from $1.22½ to $1.25, while French spun yarns show even higher levels of $1.27½ or thereabouts. For 2/50s, $1.27½ has been paid for Bradford yarn, with French spun selling around $1.30. New business is being offered right and left, but dealers are not able to take it. One house had a large volume of business offered it, but was able to place only about one-eighth of it with the mills; and so it runs throughout the trade. Sales are made at top notch prices, and buyers are said to be glad to get it at the price.

UNUSUAL CONDITIONS

Conditions generally are in an excited state. With foreign wool markets advancing, and embargoes preventing shipments of wools, restricted shipping, with high freight rates, spinners have much to contend with on the raw material. Then, too, the labor question is a big factor to-day which demands at-

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HIGH GRADE
BRADFORD STEEL SYSTEM
MADE IN AMERICA
WEAVING-KNITTING

In the gray, fancy shades, twists, mixtures, both VIGOUREUX and blends
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Successor to
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TOPS, NOILS, WASTE

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YARNS and Tops FOR ALL PURPOSES

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THE YEWDALL & JONES CO.
Manufacturers of WORSTED YARNS
In the gray and in all colors; also fancy mixtures, and double and twist
PHILADELPHIA, PA.

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The French Worsted Co., Woonsocket, R. I.
Highland Worsted Mills, Camden, N. J. | James Irving & Son, Ltd., Chester, Pa. | Falls Yarn Mills, Woonsocket, R. I.

YARN MARKETS—WORSTED—Continued

tention. Many mills have been obliged to advance wages in order to keep their help. Mills are said to be looking for additional hands in order that they can run to their fullest capacity. On top of this the dye uncertainty provides the manufacturer, whether of worsted yarns or goods, with enough ground for serious thinking, in order that the rush for goods which is now apparent may be utilized to best advantage by his mill. There are some who wonder if present prices will hold their level, but the majority state it is time for the manufacturers of goods to feel some benefit from improved conditions which have been enjoyed by other industries. The increased buying power of the country through a better employed laboring class, coupled with an admitted scarcity of goods in their minds leaves little room for apprehension that worsted yarns will not prevail at high levels for some time to come.

KNITTERS' LARGE CONTRACTS

Knitting yarns are said to be less active as far as actual new business goes. Manufacturers have already placed large orders for yarns in their effort to anticipate any difficulty about securing yarns when needed. Therefore, the amount of business already placed is very large, and is considered well above normal by many factors. With manufacturers, therefore, rather well covered with yarns, it is to be expected the bulk of the activity to-day should consist of specifications against contracts, as manufacturers continue to be well engaged in an effort to fill orders still on hand. Prices are naturally firm, as spinners are well sold up, and are endeavoring to satisfy their customers with deliveries as soon as possible. Several mills are refusing to take any further orders for the present. As for colors, buyers are taking anything they can get. Maroon and heather mixes are said to be scarce, while heavy blue is another limited color now available. A 2/20s quarter-blood is held around 97½c. to $1, as these yarns are almost up to the level of the half-bloods, in view of the comparative scarcity of this grade.

WORSTED YARNS UNCHANGED

Steady Demand Continues for Yarns at High Prices

BOSTON, Feb. 2.—A steady demand for worsted yarns continues, and recent business has been placed at top prices; in fact, the volume taken could have been much larger if spinners were in a position to take large contracts, but for the present at least the latter are well covered and are not anxious to book much business for future delivery, except, of course, at prices that are acceptable under present conditions. Knitting yarns continue in active demand, but the dyestuff problem restricts actual business to a comparatively small volume; most spinners are refusing knitting yarn contracts unless the buyer assumes the dyestuff problem. French spinners, with but very few exceptions, are refusing new contracts, and are covered well into the summer. Dress goods manufacturers are more active than they have been for some time, and the men's wear trade is also placing a good amount of business.

The price situation shows but little change from the past few weeks except that values are tending upward. In half-bloods the price list is exceptionally strong and for good 2-40s few spinners will consider future business at below $1.25, though in some instances it is possible to do business at $1.22½. For 2-28s few spinners are willing to consider below $1.07½, though the market range is from this price down to $1.02½. Three-eighths-bloods are firm on a basis of $1.05 to $1.10 for 2-36s. Knitting yarns are quoted firmly on a basis of $1.07½ for 2-24s half-blood in the oil, and 95c. for 2-30s quarter-blood in the oil. Dyeing charges for knitting yarns are as high as 32c. above the yarn price.

TOPS AND NOILS FIRM

Fair Trading at Strong Prices Favoring Half-Bloods

BOSTON, Feb. 2.—A fair activity is reported in tops and buying is well distributed, though somewhat favoring half-bloods and three-eighths bloods. Prices continue very firm, with an upward tendency, and practically all recent business has been placed at the top of the market. For the most attractive qualities combers are realizing premiums of as high as two cents, and sales of extra fine tops are reported at 92½c. against a general asking price of about 90c. Half-blood business is reported at 90c., and there are few combers willing to consider below this price for good qualities, though it is still possible to buy half-blood as low as 87c. A full 87c. is wanted for the best three-eighths blood, and sales have been consummated at this figure, while the range is from 84 to 87c. The lack of business in quarter-bloods leaves prices on this quality nominal. No change is reported among commission combers, and most of the latter are well booked with business for the next few months, with a few covered until well into the summer.

No particular changes are reported among noil dealers, and most of the latter continue to enjoy a fairly active demand and selling at top prices. Three-eighths blood is, perhaps, the most in demand, and relatively the scarcest; best three-eighths bloods easily bring 48c., and in some instances up to a full 50c. has been asked, though no business is reported at the latter figure. Other prices are unchanged at 48 to 50c. for fine; 45 to 48c. for half-blood, and 42 to 45c. for quarter-blood.

CHICOPEE'S IMPROVEMENT

Annual Statement Shows Decided Gain on Last Year

The annual statement of the Chicopee Manufacturing Co., Chicopee Falls, Mass., which is published to-day, preparatory to the annual meeting on Feb. 14, shows a much improved status over previous similar records. According to an authoritative statement the company lost between $30,000 and $35,000 during the first four months of the year, but for the remaining months broke practically even. About four-tenths of the machinery was scrapped and yet in spite of the abnormal repair account charged to manufacturing the loss has been practically wiped out. The profit and loss account last year was practically $170,000.

Considerable changes have been made in the product, ounce goods and specialties in twills, etc., forming the bulk of the output for which, under improved market conditions, there has been a ready sale. George Nichols, of Minot, Hooper & Co., is the treasurer. The financial statement follows:

Assets.	
Real estate and machinery	$600,000 00
Cash and debts receivable	371,000 69
Mfrs. material and stock in process	411,636 39
	$1,382,637 08
Liabilities.	
Capital stock	$600,000 00
Notes payable	700,000 00
Accounts payable	29,086 67
Profit and loss	53,550 41
	$1,382,637 08

Star Worsted Company
YARNS
FITCHBURG, MASS.

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THE "MURDOCK"

The Only Bobbin Holder that cannot be improved on
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FURTHER WOOL EMBARGOES?

Reported Resumption of Ban on Merinos from England Unconfirmed

Various reports have been current in the local market with regard to the reimposition of the embargo on wool from England and the Colonies. These reports include the rumor to the effect that the embargo was placed again on merino wools from Great Britain and that also an embargo had been imposed on the shipment of crossbred wools from Australia to neutral countries. As noted in another column, our London correspondent cables that no licenses are obtainable for America on anything but merino noils.

Inquiry at the office of the Textile Alliance yesterday elicited the statement that no official advices had been received of any further change in the embargo situation. It was recalled that the embargo on crossbred wools from England is in effect and that the same applies to crossbreds from New Zealand, while the export of wooled sheep skins from Australia is also prohibited. As to the granting of licenses, A. M. Patterson, president of the Textile Alliance, made the following statement:

"The first step in the imposition of an embargo is the issuance of an Order in Council which is general in its terms. The embargo is then removed, either in whole or in part, by an issue of a further Order in Council. The license, in effect, is a special Order in Council modifying the original order in favor of a particular individual and for a particular transaction. The embargo can be renewed simply by a withdrawal of licenses. We have had no advices as to additional embargoes, but have heard the rumors and are cabling to-day for information."

Child Labor Bill Passed

On Wednesday of this week the the House of Representatives passed the Keating Bill to prohibit interstate shipment of products manufactured wholly or in part by child labor. The bill was passed by a vote of 337 to 46 over the protest of southern manufacturers and congressmen, lead by Representative Webb, of North Carolina. The bill makes it unlawful for any producer or dealer to ship in interstate commerce products made by children under 16 years of age or by children under 14 employed more than 8 hours a day or by children under 16 employed at night. The House adopted an amendment exempting unincorporated canning clubs formed by boys and girls.

Proposal for German Dyes

It is reported from Washington that an arrangement has been made by Ambassador von Bernstorff with the firm of Nolde & Horst, hosiery manufacturers, Reading, Pa., permitting the exportation of 15,000 pounds of dyestuffs from Germany on the condition that the permission of England to make such imports is not sought. It is the contention of the German government that to ask the permission of Great Britain for the shipment of goods to the United States would be to recognize the British blockade. It is felt that the proposed plan is a move on the part of the German Government to place the responsibility for the shortage of dyes upon Great Britain.

PERSONAL

R. H. Shaen, formerly a manufacturer in Philadelphia and well known to the manufacturing trade, will in the future represent the cotton yarn department of the J. Spencer Turner Co. in that market.

Something New Under the Sun

Years of experience in close touch with the washing of fabrics of every sort; years of experience and study in perfecting chemicals that would perform special functions in the cleansing of every sort of raw and unfinished as well as finished products; experimental and laboratory work costing thousands of dollars—these are the features that combine to produce the perfection of

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(BLUE LABEL)

This combination of soda and ammonia, neutral soda with ammonia "locked-in"

"IT'S LOCKED IN"

marks a radical improvement in your methods of scouring, washing and bleaching.

An experimental lot of one to five barrels will prove our every claim and you will become an enthusiastic and regular user of this product.

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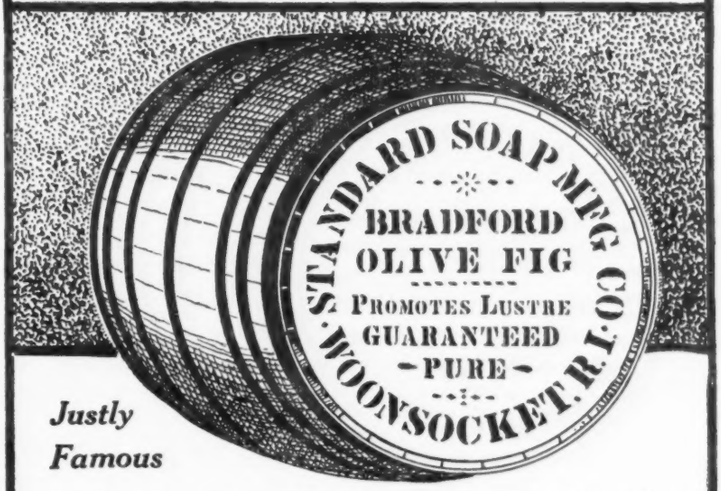

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No. 6167, about 10,000 lbs. Waste Felt Cuttings from shoe top cloth, for divided deliveries during the year. Firm offers wanted. Samples upon request.

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Promote Lustre and Improve the Spin
Write for data on Pux Softener for lace, hosiery, cotton and all woolen goods.
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American Sulphur Blacks when Dyed in Franklin Machines are Absolutely Free from Bronzing? Splendid results are thus obtained, and with a

Saving of 15% to 25% of Color.

Customers report results equal to those secured from the best imported black dyes with 18% less color in the standing bath using the paste product.

Dyers of Hosiery Yarns

find particular interest in this process and all dyers of sulphur blacks should investigate.

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Cotton Facts on a Map

Figures and Facts of the production of American Cotton presented in a new way. Map is 59" x 30", is printed in six colors and shows at a glance the production of cotton for the last five years in each county, bales of cotton ginned, effect of weather, earliest frost killing dates, the linters, limits of the Boll Weevil area, etc., etc.

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Dyer-Dyestuffs

A dyer, who understands the use of acid and chrome dyes in an economical way, on stock and piece dyes, also peroxide bleaching and pastel shades, desires position with woolen or worsted mill. For a good reliable dyer, who understands the dyeing trade thoroughly,

Communicate with BOX 3501, TEXTILE WORLD JOURNAL 377 Broadway, N. Y.

HELP WANTED

Wanted:---Capable Hosiery Mill Superintendent

Must be thoroughly familiar with all departments, particularly able in reducing manufacturing co t.

Address Box 3506, TEXTILE WORLD JOURNAL, 377 Broadway, N. Y.

Yarn Credit Assn. Officers

At a meeting held this week, in New York, of the Yarn Credit Association, the following officers were elected: Stanley R. Staeger of Jonathan, Ring & Sons, Philadelphia, president; E. Stanley Bowers, of Brown & Bowers, Philadelphia, vice-president, and Ignatz Rottenburg, of the Knit Goods Exchange, New York, secretary and treasurer.

SPINNERS AND COTTON

(*Continued from page* 19)

United States on July 31 was as follows:

	Bales.
In consuming establishments	800,000
In public storage and compress	543,000
Elsewhere	347,000
	1,690,000

This year on a conservative basis, considering the approximate 20 per cent. increase in consumption, and other factors, there will be at least 2,225,000 bales to be figured upon.—Taking this figure we can reckon "supply and distribution of cotton" as follows:

Supply

On Hand at Beginning of Season in U. S. (Aug. 1, 1915)	Bales.
In consuming establishments 1,600,000	
Storage and compress 1,875,000	4,365,000
Elsewhere 890,000	
(U. S. Gov. Census Records)	
Estimated ginning new crop, including linters	11,800,000
Net imports	200,000
Overplus of distribution (errors, city crop, etc.)	200,000
	16,565,000

Distribution

	Bales.
Estimated consumption in U. S.	7,216,000
Destroyed by fire	50,000
Estimated on hand as before figured upon by present conditions, conservative figures	2,225,000
	9,491,000
Exports to Jan. 31, 6 months	2,918,000
	12,409,000
Balance total available for export	4,156,000
	16,565,000

Thus, it is certain that the weight of cotton is not as great as supposed generally. It figures but a trifle over four million bales available for export and by taking a careful survey of exports during former seasons it is not likely that the figures for the next six months' exports will fall below 3,000,000 bales, while it is very likely they will reach 4,000,000 bales. Last year we exported for the last six months of the year 4,566,000 bales with Germany no longer a factor after March 1 as the contraband order went into effect at that date.

We now have a line on foreign requirements by the increased output in England during the last month or two. Mills abroad have the idea that England will only use 80 per cent. of normal requirements but the situation is not changed by the idea that may be expressed to influence a better buying basis for the balance of our crop. The English are keen to this method in times of the past. They get our cotton much cheaper than we do ourselves on average. Is history repeating this year?

In 1913-14 out of total exports for twelve months beginning Aug. 1, 1913, the first six months witnessed exports of 6,489,000 bales, the second six months but 2,661,000 bales, the grand total being 9,150,000 bales. If we go back to 1912-13 again a similar fact shows exports for the first six months from Aug. 1, 1912, of 6,407,000 bales with but 2,372,000 exported for second six months. The total exports in 1912-13 reached 8,779,000 bales. Both these comparisons are for fiscal year beginning Aug. 1 as per following table.

This year exports for the last half year are bound to be heavier than first six months the same as occurred last year.

Therefore it would seem unwise for mills to be short of actual cotton even if there is plenty to go around.

It is not impossible for England to decide to take it all and charge us heavily to get what we need. If the next crop should turn out poor and not increased in volume over this season's the price could soar and at our expense. (*Lever Law, Sec. 11.*)

Monthly Exports for Comparison, Arranged for Fiscal Cotton Year

	1914-15.	1913-14.	1912-13.
Aug.	21,000	257,000	134,000
Sept.	126,000	930,000	730,000
Oct.	497,000	1,518,000	1,516,000
Nov.	761,000	1,501,000	1,735,000
Dec.	1,202,000	1,231,000	1,391,000
Jan.	1,372,000	1,052,000	901,000
First 6 mos.	3,979,000	6,489,000	6,407,000
Feb.	1,502,000	751,000	531,000
March	1,209,000	695,000	372,000
April	672,000	398,000	535,000
May	615,000	395,000	469,000
June	323,000	296,000	224 000
July	245,000	126,000	141,000
Second 6 mos.	4,566,000	2,661,000	2,372,000
Total exports	8,545,000	9,150,000	8,779,000

POSITIONS WANTED

COTTON Buying and Receiving Agent Wants Position with large cotton manufacturing concern. 9 years with New England broker; 3 years as a classer in the South; 6 years in present position as Southern receiving agent for a New England cotton merchant. 36 years old; married. References furnished on request.

Address Cotton Agent, 3482, TEXTILE WORLD JOURNAL, 377 Broadway, New York.

Manager of mill now making fine line of worsted half hose (some special features) would like to form connection with mill having *ample capital* who are now making cotton and silk goods. Can convince any experienced textile manufacturer of advantages in making worsted goods. Fair salary and share in profits expected.

Address BOX 3509, TEXTILE WORLD JOURNAL, 337 Broadway, N. Y.

Manager or Superintendent

Position wanted by a reliable man with twenty-eight (28) years' experience in all departments of full-fashioned and seamless hosiery manufacturing. Have successfully managed some of the largest mills for the past twenty years and am qualified to take full charge of any size mill. Best references.

Address box 3485, TEXTILE WORLD JOURNAL, 377 Broadway, New York City.

Situations Wanted

Manufacturers who are in need of superintendents or overseers for any department of mill work may learn of suitable men upon application by mail or telephone to C. T. DONLEVY, care TEXTILE WORLD JOURNAL, 144 Congress St., Boston, who will give prompt attention to their requirements without charge.

DESIGNER, SUPERINTENDENT OR OFFICE MANAGER; has worked on all classes of cotton goods in narrow fabrics; familiar with Crompton & Knowles, Kilburn & Lincoln, Ullinger and English looms; 35 years of age; will not go to Pa., West, South or to Canada; good reference.
6628, Textile World Journal, Boston, Mass.

OVERSEER OF WEAVING; would consider position as boss dresser; has worked on all kinds of cotton goods; familiar with any kind of machinery, plain and fancy looms; 46 years of age; will not go to Pa., N. J., West, South or Canada; good reference.
6629, Textile World Journal, Boston, Mass.

OVERSEER OF DRESSING OR ASSISTANT SUPERINTENDENT IN WOOLEN MILL; has worked on worsteds, plain and fancy woolens; familiar with various makes of dressers, twisters and looms; 34 years of age; will not go to Me., N. H., Vt., Pa., N. Y., N. J., West, South or to Canada; good reference.
6630, Textile World Journal, Boston, Mass.

OVERSEER OF CARDING AND SPINNING IN WOOLEN MILL; has worked on all kinds of wool, cotton and shoddy; familiar with all makes of cards; 45 years of age; will not go West, South or to Canada; good reference.
6631, Textile World Journal, Boston, Mass.

SUPERINTENDENT OF YARN OR CLOTH MILL; might consider large carding job; has worked on all classes of cotton goods and familiar with all makes of cotton machinery; 37 years of age; good reference.
6632, Textile World Journal, Boston, Mass.

MAN TO TAKE CHARGE OF FINISHING, BOARDING, PAIRING AND BOXING IN HOSIERY MILL; has worked on all classes of goods; 45 years of age; prefers Southern States; good reference.
6633, Textile World Journal, Boston, Mass.

BOSS DYER IN WOOLEN MILL; has worked on all kinds of raw stock, woolen, worsted and union piece-dyes; 38 years of age, Scotch; will not go South or West; good references.
6634, Textile World Journal, Boston, Mass.

OVERSEER OF WOOLEN CARDING; has worked on wool, shoddy and cotton mixes; familiar with almost all makes of machinery; 32 years of age; will not go to Vt., N. J., South or to Canada; good reference.
6635, Textile World Journal, Boston, Mass.

BOSS KNITTER OR FIXER IN HOSIERY MILL; has worked on spun and artificial silk, cotton, cashmere, mercerized men's half hose and ladies' and misses' hosiery; 26 years of age; married; good reference.
6636, Textile World Journal, Boston, Mass.

SUPERINTENDENT OF WOOLEN MILL; has worked on all classes of woolen goods; familiar with all kinds of machinery; 43 years of age; good reference.
6637, Textile World Journal, Boston, Mass.

OVERSEER OF FINISHING IN WOOLEN MILL; has worked on all kinds of woolen goods; familiar with all makes of woolen machinery; will not go South, West or to Canada; good reference.
6638, Textile World Journal, Boston, Mass.

BOSS FINISHER IN WOOLEN MILL; has worked on woolens, worsteds, suitings, dress goods, face goods and overcoatings; familiar with almost all makes of American machinery; 45 years of age; will not go to Me., Vt., Pa., N. Y., N. J., West, South or to Canada; good reference.
6639, Textile World Journal, Boston, Mass.

MILLS AND MACHINERY WANTED AND FOR SALE

COTTON MILL
WITH WATER POWER

This splendid property is in good condition and was operated until a year ago, but closed now on account of death. Must be sold to settle an estate and will be sold at a bargain. 10,000 spindle four story mill of 30,000 square feet of floor with machinery, consisting of spindles, pickers' cards and looms. Stone picker house, ware-house for 3 cars, blacksmith shop and 15 single and two family dwellings; all in excellent condition. Three turbines of 342 H.P. and 250 H.P. Corliss engines with boiler new in 1911. Complete electric equipment. Grinnell Automatic Sprinkler—$90,000. Mutual fire insurance costs only $100. Remember this is an unusually good proposition and will be sold cheap. Near Willimantic, Conn.

Ask Mr. Fowler, 702 Centre St., Jamaica Plain, Boston, Mass. *Jamaica 500.*

Factory Building

For sale or rent in good Pa. town or Owner will assist to finance good manufacturing business established or new. Excellent opportunity for right party.

Write immediately. Box 3508, TEXTILE WORLD JOURNAL, 377 Broadway, N. Y.

Wanted

Eighteen inch ten cut cylinder and dial for Scott & Williams cuff machine.

Address Box 3503, TEXTILE WORLD JOURNAL, 377 Broadway, New York.

Wanted

Dusting Machine for dusting cement bags. When answering, state make of machine, production and horse power. Post Office Box 4705, Station E., Philadelphia, Pa.

Starch Mangle Wanted

with Brass and Rubber Rolls, about 45" wide.

Must be in good order. Give particulars and price.

MILFORD, MFG. CO., MILFORD, N. H.

FOR SALE
Five Set Woolen Mill

All equipped and now running on fancy woolen goods. Water and steam power

Address Box 3504, TEXTILE WORLD JOURNAL, 377 Broadway, New York.

16 Drum Foster Camless Winder will exchange for Universal

Apply NEW BEDFORD TEXTILE COMPANY, New Bedford, Mass.

FOR SALE

Lot of Ply Skeins—Nos. from 30 to 70 slightly mixed

Combed Peeler **Combed Egyptian**

Apply Box 3491, TEXTILE WORLD JOURNAL, 377 Broadway, New York.

FOR SALE
HOSIERY MILL

Well situated, with good railroad facilities. Excellent power and plenty of room for expansion.

Address Box 62, Palmyra, Pa.

FOR SALE

Hosiery Needles, 42/50 Paxton & O'Neill; also 150 galvanized iron silk racks 40x37

CHIPMAN KNITTING MILLS
Easton, Penna.

WANTED

120 inch Smyrna Rug Looms 3x3 box, positive let off and Spike roll.

State Price and Location.

Address—Box 3510 c/o TEXTILE WORLD JOURNAL, 377 Broadway, N. Y.

FOR SALE
Modern Factory

desirable for any branch of textile manufacturing

70,000 square feet floor space. Highly developed water power. Quick possession.

For full information, Address: "Factory"—TEXTILE WORLD JOURNAL, 377 Broadway, N. Y.

FOR SALE

1—P. & W. Knit Goods Napper, 66"
1—P. & W. Napper, 16 Roll, 68"
1—D. & F. Napper, 14 Roll, 90"
2—Greene Nappers, 20 Roll, 80", double acting
2—Collins Twisters, 84 and 96 spdl. ea., 3¼" Ring
1—Collins Twister, 180 spdl., 2" Ring, dbl. cyl.
2—Smith Garnett Mchs., 60", 3 cyl.
9—Payne Skein Winders, 40 spdl. each
12—Mason Looms, 54"—16 Har., 1x1 Bx., Motor drive
14—Lindsay-Hyde Reels, 60 spdl. each
1—D. & F. Card Grinder, 48" and Lathe
3—Roy Traverse Wheels, 48" and Stands
1—Goddard Burr Picker, 40"
1—Klauder-Welden Skein Dyeing Mch., 400 lbs.
3—Jack Spoolers, 43¼", Iron Drums
2—J. & B. Bobbin Winders, 96 spdl. ea.
1—J. & B. Bobbin Winder, 192 spdl.
1—Greene Double Shear, 66"

NATIONAL MACHINERY CO.
11 Eddy St. Providence, R. I.

FOR SALE

One 16 gauge, three section flat Cooper rib knitting machine for collarettes.

Will sell cheap.

TAUNTON KNITTING COMPANY, Taunton, Mass.

FOR SALE

Two 400-lb. Circulating Type Dyeing Machines,

Three Fans and Six Upright Coils from 500-lb., Hosiery Dry Box.

Above all of Philadelphia Drying Machine Co. make.

CHIPMAN KNITTING MILLS,
Easton, Penna.

For Sale, one Leighton Sweater Machine as follows:

Serial Number 2166, 12" 2 feed Automatic rack, half card, no striper, 2 3/4 cut, 104 4/8 gauge. Fitted for Crawford Stop Motion.

This new machine was operated less than three months and is in absolutely first class condition. Cost $505.00 and will sell for $350.00.

WRIGHT'S UNDERWEAR CO., 74 LEONARD ST., N. Y.

FOR SALE
One Kenyon Cloth Dryer

72 in. wide—50 feet long.

EDWARD JEFFERSON & BROTHER
123 So. 2nd St., Phila., Pa.

FOR SALE

21 Hepworth and 15 Beattie loopers, 14 point with trimmers attached. All in first class condition.

Chipman Knitting Mills, Easton, Pa.

COTTON DRYER FOR SALE

NEW HURRICANE AUTOMATIC STOCK DRYER; FIRE-PROOF; 600 LBS. PER HOUR CAPACITY. ALL COMPLETE. A-1 CONDITION. FOR SALE CHEAP.

DEDHAM FINISHING CO., DEDHAM, MASS.

FOR SALE

1 Whitin Lap Machine and 1 Eight Head Patent Comber—Practically New.

EDWARD JEFFERSON & BROTHER
117 So. 2nd St., Phila., Pa.

FOR SALE

4 sets, 60"x48" Jas. Smith Cards Good Clothing. 14 Cleveland Cards, 48"x48". 10 D. & F. Mules, 240 to 390 spindles. Tompkins, Campbell & Clute, Scott & Williams, Nye & Tredick and Huse Knitting Machines, Union Special Finishing Machines.

A large line of good Textile Machinery.

GEO. E. SMITH TEXTILE MACHINERY CO.
Cohoes, N. Y.

MILLS AND MACHINERY WANTED AND FOR SALE

FOR SALE

One 1000 h. p. National Clover Feed Water Heater.
Two 1000 h. p. Allegheny Cooling Tanks.
Six Reeves Variable Speed Transmitters.

COTTON MILL MACHINERY

Of all Descriptions in First-Class Condition

Inquire W. BETHUNE, 921 Garfield Ave., Jersey City, N. J.

FOR RENT

FIVE STORY and Basement FACTORY Building. Modern mill construction, elevator, sprinkler system, steam heat, gas and electric light, complies with state fire laws, best of light, centrally located, ideal location for help.

FOR SALE

or lease for long period with privilege of buying. Two Building Sites; one adjoins N. Y. C. R. R. tracks not to exceed 5 minutes trucking distance from freight house. Other short distance from freight houses, has branch N. Y. C. R. R. along front and Canal along rear.

C. H. POOLE, UTICA, N. Y.

FOR SALE CHEAP.

3 sets of 48 by 48 inch Bridesburg cards.
2 sets of 60 inch D. & F. cards.
20 110 inch D. & F. blanket lms., 3 x 1 box.
29 92 inch Knowles looms, 4 x 4 box, 25 har.
20 54 inch Knowles looms, 20 har., 1 x 1 box.
1 52 inch Payne spooler.
2 Lever & Grundy 12 drum compressor spooler.
1 42 inch belt driven extractor.

ARMSHIRE & WHEELER,
2734 North Second Street, Philadelphia, Pa.

FOR SALE.

18 48" x 48" Cleveland cards, latest type.
6 60" x 48" Cleveland cards, latest type.
2 Schofield automatic willows.
2 Smith & Furbush 60" x 84" Blamire lap feeds.
1 Complete equipment for cotton dusting.
2 Fearnaught pickers.
A number of different shoddy pickers; also many other desirable textile machines.

DIAMOND TEXTILE MACHINE WORKS,
1820-24 North Tenth St., Phila., Pa.

FOR SALE

Seven sets of Cleveland Cards, 40" face, 48" diameter.

Six Davis & Furber 400-spindle Mules, 1⅜" gauge.

Two Parks & Woolson double cylinder Brushes, cylinders 69x30".

Two Curtis & Marble double cylinder Gigs, cylinders 72x26".

Two Broadbent 60" Extractors.

One Sturtevant direct-connected Engine and Blower.

By AMERICAN MACHINERY EXCHANGE
Lowell, Mass.

FOR SALE
CAP TWISTERS

Six (6) 200 spindles each,
Hall & Stells make,
3½" pitch, 4"x2" Cap.

EDWARD JEFFERSON & BROTHER
117 S. Second St. Philadelphia, Pa.

SPRING and LATCH NEEDLE KNITTING MACHINES FOR SALE

Four Tompkins 2-cylinder Tables. Cylinders 17"-18"-19"-20"-21", all set up, four Feeds, for Fleece underwear. Either 20-22-26 Gauge.
Six 2-cylinder Tompkins Tables. Cylinders from 10" to 22". Equipped as desired.
Eight Campbell & Clute Tables. 2-3-4 Cylinders. Cylinders 8" to 21". Gauge 14-16-18-20-22-24-26-28 as desired.
Seven Nye & Tredick Machines, 18"-19"-20"-21". All 8 feeds, all 7 cut, all Crawford stop motions.
Three Nye & Tredick Machines, 12"-17" and 18". All 8 cut, 8 feed, with stop motions.
Two Nye & Tredick Machines, 11" and 20". Both 10 cut, 8 feed, with stop motions.
One Stafford & Holt 10" Toque Machine, cut 4 to inch.
One 12" Fisher Machine, 8 feeds, 4 cut.
Four 4¼" Nye & Tredick Cuff Machines, 2 feeds. Crawford stop motions. Cut 6-8 to inch.
One George W. Payne 40-spindle Skein Winder, new variable speed motion, winds on Bottle Bobbin.
Five Hosiery Winders, Payne, Abel, Huse. 24-40 spindles. All from cop to Bottle Bobbin.
Three McCreary Brushers, 2 Garment Cylinders, 7" x 56". One double Brush 36" cylinders for brushing in roll.

R. A. DUCKROW **TROY, N. Y.**

FOR SALE
TO BE SOLD WITHOUT RESERVE

A LARGE LOT OF COTTON, WOOLEN and WORSTED MACHINERY, such as Pickers, all kinds of Woolen and Worsted Cards, 10 sets of Woolen Cards, Mules, Spinning Frames, Worsted Drawing Frames, Noble Combs, Gill Boxes, Dandy Rovers, Ring Twisters, Trap Twisters, Sewing Machines, Knowles Looms, Finishing and Dyeing Machinery; in fact most everything that is used in Cotton, Woolen and Worsted mills.

Correspondence Solicited

J. K. LAMB TEXTILE MACHINERY CO.
246 Chestnut Street - - - - Philadelphia, Pa.

WOOL MARKETS—BOSTON, PHILADELPHIA AND NEW YORK

WOOL SALES SMALLER; PRICES CONTINUE UP

Further Gains in Australian and Cape Wools Expected—Contracting in West Begins

BOSTON, Feb. 3.—While the wool market has lost none of the strength noted last week, the aggregate sales have been smaller, though some houses have sold considerable wool. Some estimates run as high as 7,000,000 pounds, but the more conservative indicate total sales for the week of 5,000,000 to 6,000,000 pounds. The total has been swollen by large speculative purchases by various houses along the street. In fact, this buying has been pretty general, though largely of Australian and Cape wools, both greasy and scoured. Wool men say there has been an advance of fully 10 per cent. in such wools during the past fortnight, and they are operating in the belief that further gain is sure to come. Melbourne was not open this week, but Sydney held the usual four days' sale, at which still higher prices were noted than any previously reported. At the opening a fair selection was offered, with England, Japan and America buying. As usual cables varied greatly, the extreme high figures being 90c. clean landed cost for 70s combing, 88c. for 64s combing, 87c. for 70s short combing, 85c. for 64s to 70s topmaking and weft wools. Other cables reported a somewhat lower landed cost, but all agreed that there had been a substantial advance since the sale of the previous week. Indeed, prices are on the highest level ever known in Australia. Best wools continue strong on later days in the week, England and Japan being especially keen after the first day. Nothing is yet known as to the possibility that the embargo lid may be put on again in Australia, though the local trade was stirred by the definite announcement that the British authorities would issue no more licenses for the shipment of merinos from the United Kingdom. This is of less importance than would appear on the surface, as it is understood that no licenses have been issued for the past two months, recent shipments having been made on licenses issued some time ago.

LONDON ON EXTREMELY HIGH BASIS

Wool prices are on an extremely high basis in the London market, 95c. to $1 clean landed cost here being reported to have been realized, though not on wools sold to American buyers. Little wool has been bought for this country for some time, as values have been too high to justify Americans in operating in that market. It is interesting to note that in spite of the withdrawal of Americans from the market, prices have continued to soar. It was the argument used by Yorkshire to secure the renewal of embargo conditions, that the high prices prevailing were due to bids from this side, but that argument no longer holds. Mount Bute wools are reported to have sold at a price that means a clean landed cost of $1.09¾, 27 pence having been paid by the home trade for wools shrinking 47 per cent. At Geelong, last week, advances were noted for the better grades, but low wools were unchanged or slightly lower. There will be sales at both Sydney and Melbourne next week, and Adelaide will offer 6,000 bales to-morrow. Buying is about over for the season in South Africa, as there seems to be some doubt as to whether American buyers will be allowed to ship anything more from thence, even if bought. South Africa has been nearer to embargo conditions than Australia for some time. Sales were resumed in New Zealand to-day, but as in London American buyers can only be sentimentally interested, as nothing can be bought or shipped. No definite information has yet come to hand as to whether the wools bought or contracted for earlier in the season will be allowed to be shipped. Steamer Westmeath, which was loaded and ready to sail when the embargo was replaced, was finally allowed to sail, though for a time there was some doubt about the matter. Americans are not doing anything in South America, all prices being too high. In this market, Buenos Aires crossbreds have changed hands at 39 to 40c. for Lincolns, 41 to 42c. for straight quarters and 43 to 44c. for high quarters. The latter grade is very scarce, and holders can get fancy prices for really good lots. Some idea of the advances obtained in this market may be gathered from the fact that Australian greasy wools have sold during the week at 85 to 87c. for 70s combing and 80 to 83c. for 64s combing. Cape combing has sold at 75c., short combing wools bringing 70 to 72c.

CONTRACTING BEGUN IN THE WEST

Contracting has already begun in the West, and a moderate volume of wool has been tied up during the past week by Boston, Philadelphia and St. Louis houses. Southern Utah has been the scene of most of the contracts to date, the prices paid being 21 to 22c. for fine and 24 to 25c. for medium. Fully 70c. is estimated to be the scoured cost of the wools secured to date. Prices are about on last year's level, the difference being that then medium wools were sought, while this year buyers are taking fine wools as well. Serious operations began about a fortnight earlier than last year. More would have been done, but for the independent position of the growers, who are fully awake to the strength of the situation, and disposed to claim all there is in it for themselves. In addition to what has been done in Southern Utah, efforts have been made to tie up clips in Montana, Idaho and the Triangle, but without success. Growers are generally asking 30c. for their wools, and offers of 28c. do not seem to move them. Conditions in the East favor the belief that contracting on a large scale may begin any day. In this market, Territory wools have not sold as heavily as in recent weeks, though the market has lost nothing of its strength. One house reports sales of 450,000 pounds, various grades at private terms, and others report a large number of trades pending which are expected to materialize shortly. The bulk of the remaining stocks of Territory wool is held in a few hands, but whereas the leading warehouse company is now a free seller, other holders are still disposed to hold back. Scoured values are firmer and higher, and the best wools are now squarely on the 70c. basis. Fine staple Territory is quotable at 75 to 77c. clean, half-blood staple at 73 to 75c., three-eighths-blood staple at 70 to 72c., quarter-blood staple at 68 to 70c., fine clothing at 70 to 72c. and fine medium clothing at 68 to 70c.

SCOURED WOOLS ACTIVE

Considerable activity is noted for the week in scoured wools, especially for foreign grades. Australian scoureds have sold at 68 to 75c., for the best lots, including some rescoured in this country, 63 to 65c. for average wools, and 40 to 50c. for inferior and defective lots. Cape scoureds have taken a wide range at 58 to 65c. according to quality. There is some inquiry for domestic scoureds, but the volume passing is limited by the moderate offerings. Scoured Territories have sold on the basis of 67 to 68c. for choice fine and 65 to 66c. for fine medium and average fine. More activity is noted in pulled wools, and most grades are actually quoted higher. It is claimed that there is not much speculative demand for B supers, the experience of last year being still too fresh in the memory to warrant free operations. Ordinary Eastern B supers are now quotable at 62 to 63c., clean, with good white lots at 65 to 67c. Eastern A supers are selling on the basis of 66 to 68c., with fine A supers and extras at 70 to 75c. Possibly 2 to 3c. more a pound could be realized for wools of better staple. Eastern combing wools are selling in the grease at 57 to 58c. for fine, 55 to 56c. for medium and 50 to 52c. for low. Chicago pulled lots are quotable at 60 to 64c. for A supers and 58 to 61c. for B supers. Something like 200,000 pounds of fleeces have changed hands during the week, mostly at private terms, but including good-sized lots of Indiana half-blood combing at 32c. and Ohio half blood clothing at 32c. Current quotations on Ohio fleeces are nominally 35½ to 36½c. for fine washed delaine, 33c. for XX and above, 32 to 33c. for fine unwashed delaine, 28 to 28½c. for fine unwashed clothing, 35 to 36c. for half-blood combing, 38 to 39c. for three-eighths-blood combing, 37½ to 38c. for quarter-blood combing, and 32 to 34c. for medium clothing. Some holders are asking 37c. for fine washed delaine, and 40c. for quarter-blood and three-eighths-blood combing, but they do not claim that the market has really reached that point as yet.

RECEIPTS AND SHIPMENTS

The receipts of domestic wools this week aggregated 2,437,125 pounds and foreign 2,813,500 pounds, as compared with 3,238,040 pounds of domestic for the corresponding week last year. The total receipts of domestic wools since Jan. 1 have been 10,897,932 pounds and foreign 38,463,135, making a total of 49,361,067 pounds, as compared with 29,253,392 pounds last year.

The statistics of shipments follow:

	Pounds.
Boston & Maine	3,225,353
Mystic Wharf	708,341
Grand Junction	1,206,160
Boston & Albany	574,221
New York, New Haven & Hartford	2,743,520
By sea	1,175,700
Total	9,633,295
Last week	7,504,179
Last year	6,177,289
Since Jan. 1	34,656,620
Same period of 1915	22,591,949

WOOL TRADE NOTES

Cables from Sydney, Australia, sales Wednesday report the market active and higher. The landed clean cost of choice 64s was 81 to 82c.; of 70s 84 to 86c. and of short combing 64s 77 to 78c.

Cables received from London Thursday report the reimposition of the embargo on merino wools. A more correct statement of the ruling would be that no future licenses will be granted on merinos for exportation to neutral countries.

Rumors received by cable on Wednesday from Australia to the effect that that government had refused to allow further exports of crossbred wools to neutral countries was apparently confirmed on Thursday, so far as this country and Italy are concerned. One of the most reliable and complete cables is as follows: "Exports of crossbreds to America and Italy prohibited. Shipping everything bought to date." This was dated Melbourne, Feb. 2.

Reports regarding the amount of wool placed under contract in the West are somewhat conflicting, but it is agreed that most of the contracting has been done in Utah and does not exceed 3,000,000 pounds. Present extreme prices asked by growers are materially restricting further development of this movement. Only two or three small clips appear to have been placed under contract in Montana and one house has done considerable contracting in one district of California.

DEMAND CONTINUES

Wools Held at High Prices Command Attention

PHILADELPHIA, Feb. 3.—Continued demand for a broad range of wool at firm prices characterizes the wool market this week. Dealers state manufacturers are looking for practically all grades, although many consider the short fine clothing territory wools about the least popular. With spinners running full with orders well ahead, wools are being consumed steadily, and buyers find it necessary to keep up their supplies to meet these requirements in their mills. Foreign wools are attracting quite a good deal of attention in view of limited stocks of certain domestic wools, but even here prices are so high it requires buyers some little time to adjust themselves. Foreign markets are also advancing so dealers are endeavoring to reconcile these values with those at home. Good staple Cape wools are said to be selling on a basis of 72 to 75c.; Australian good average fine wools bring from 75 to 80c., while super combings are being sold now on a basis which means a landed cost of 84c. According to a cable received here, the embargo on Australian crossbreds has been reimposed. This again complicates the situation. As for South American wools, several factors say they are held too high for them to handle in these markets. With freight rates advancing, and war risk insurance reaching an extremely high level on account of the recent activities of the Moewe, dealers say it is extremely difficult to operate on imported wools.

BROAD INQUIRY REPORTED

There is said to be quite a good inquiry for quarter and three-eighths wools, with only limited stocks from which to draw. In several instances, offers have been received on consigned lots but it has not been possible to get owners to accept them. Territory quarters have sold on a basis of 67 to 69c., with three-eighths around 73c. Choice fleece wools are held around 38c. or 38½c., with some as high as 39c., and lots out in the country are quoted around 40c. In territory wools dealers say anything with good average staple can be sold readily to-day. Among sales noted are: 400,000 pounds original and graded territory wools at 23½ to 34c., including fine medium, half and fine medium, Montana staple, original Wyoming, and Montana quarter; 10,000 fine Colorado at 24c.; 35,000 pounds of half blood and fine Montana with staple in it, at 29c.; 25,000 pounds of fine Wyoming selected for staple at 25c.; 30,000 pounds of burry and seedy at 29 to 30c.; 15,000 pounds of Southern quarter and three-eighths at 35½c.; 1,000 pounds of black at 33c. Contracting in the West has been reported in Utah at prices ranging from 22 to 28c., but many dealers state they do not consider it advisable at this time to operate at such high prices as are quoted. They say imported wools are a factor which must be considered.

PULLED AND SCOURED

Pulled and scoured wools are main-

MOVEMENT OF FOREIGN WOOL FOR THE WEEK

The following details of the movement in foreign wool in pounds and values have been compiled by the TEXTILE WORLD JOURNAL in Boston and Philadelphia. They give the entries anid withdrawals for the week ending Jan. 29. Quotations with a recapitulation of the principal grades and a resume of market conditions are also given. Owing to a change in the compilation methods at the New York Custom House, no current figures on imports at New York are available.

Recapitulation of Week's Business Compared with Same Period in 1915.

	1916. Pounds.	1916. Value.	1915. Pounds.	1915. Value.
Entered for consumption:				
District of Massachusetts	13,298,854	$3,934,957	717,500	$191,675
District of New York	.....	.....	995,711	226,057
Philadelphia	511,278	125,244	.....	.....
	13,810,132	$4,060,201	1,713,211	$417,732
Withdrawn from bond:				
District of Massachusetts	193,396	47,483	.....	.....
Total business for week	14,003,528	$4,107,684	1,713,211	$417,732
Previously reported	20,538,815			
Business for week ending Jan. 22	6,490,795			
Total since Jan. 1*	41,033,138			

*New York imports excluded.

QUOTATIONS

OHIO, PENNSYLVANIA AND WEST VIRGINIA.

Washed.		Unwashed.	
XX & abv.	.32 @33	Fn. unwshd.	.27 @27½
½ & ⅝ bld.	.41 @42	Unm'r'ble	.32 @33
Fine del.	.35½ @36½	Fine del.	.31 @32
		½ bld.	.35 @36
		⅝ bld.	.38 @39
		¼ bld.	.37 @38

MICHIGAN AND NEW YORK.

Unwashed.		Unwashed.	
Fn. unwshd.	.25 @26	½ bld.	.34 @35
Fine del.	.29 @30	¼ & ⅜ bld.	.37 @38

KENTUCKY AND SIMILAR.

½ bld.	.35 @36	¼ bld.	.37 @38
⅜ bld.	.38 @39	Braid cbg.	.32 @33

CALIFORNIA (SCOURED BASIS).

Sp'g north'n free&12mo.	.67 @68	S'th, 6 and 8 mos.	.53 @60
Sp. middle countries.	.62 @63	Fall free	.57 @58
S'th, 12mo.	.58 @60	Fall defects.	.47 @48
		Carbonized	.52 @53

TEXAS (SCOURED BASIS).

Fine 12mo.	.67 @68	Fine fall	.52 @53
Fine 8mo.	.60 @62	Georgia	.33 @34

OREGON (SCOURED BASIS).

Staple, East-ern, No. 1	.73 @75	Cloth, East-ern, No. 1	.70 @72
Staple, East-ern, No. 2	.70 @72	Cloth, East-ern, No. 2	.65 @67

PULLED—EASTERN.

Scoured.		Scoured.	
Fine A	.73 @75	Cbgs. fine	.70 @72
A super	.65 @68	Medium	.65 @68
B super	.62 @65	Coarse	.55 @56
C super	.50 @55		

PULLED (CHICAGO).

Scoured Basis.			
A super	.60 @62	B super	.58 @60

MONTANA, IDAHO AND WYOMING (SCOURED BASIS).

Staple, fine	.75 @77	Fine clothg.	.68 @72
Do, ½ bld.	.72 @73	Fine med.	.67 @69

UTAH (SCOURED BASIS).

Fine	.67 @68	Fine med.	.65 @67

COLORADO AND NEW MEXICO (SCOURED BASIS).

Fine	.67 @68	No. 3	.53 @55
No. 1	.62 @63	No. 4	.48 @50
No. 2	.57 @58		

NEVADA (SCOURED BASIS).

Fine clothg.	.68 @70	Fine med.	.65 @67

MOHAIR.

Domestic.		Foreign.	
Combing	.30 @33	Turkey	.38 @40
Carding	.23 @27	Cape	.34 @36

FOREIGN CLOTHING AND COMBING.

Australia (scd. basis), Victorian combing:		Montevideo (greasy):	
		Lincoln	.40 @41
		¼ bld.	.41 @43
70s	.85 @88	High	.42 @44
64s	.83 @85	⅜ bld.	.45 @47
60s	.75 @78	½ bld.	.46 @48
Sydney combing		Merino	.34 @36
70s	.83 @85	Buenos Aires:	
64s	.77 @80	x-breds:	
60s	.73 @75	Lincoln	.38 @39
		¼ bld.	.40 @42
		High	.42 @43
New Zealand:		English&Irish:	
x-breds:		Shrop-shire	.— @—
36 to 40s	.— @40	Sussex	.— @—
40 to 44s	.— @42	Irish hogs	.— @—
46s	.— @45		

FOREIGN CARPET.

Aleppo:		Khorassia'n:	
Washed	.— @—	1st clip	.— @—
Wshd col.	.— @—	2d clip	.— @—
Angora	.— @—	Mongolian:	
Awassi	.— @—	Bijsk	.— @—
Karadi	.— @—	Urga	.— @—
Bokhara:		M'n'chur'n	.— @—
White	.— @—	Scotch blk., faced	.— @—
Colors	.— @—	Camels hair (Russ'n)	.— @—
China:		Servian skin	
Combing	.21 @22	wools	.— @—
Wshd cbg.	.27 @28	East India:	
Wld. ball.	.21 @22	Gray	.— @—
Willowed.	.18 @21	Washed:	
Unwld.	.14 @16	Vickaneer	.— @—
Cordova	.15 @17	Joria	.— @—
Donskoi:		Kandahar	.— @—
Combing	.28 @30	Spring	.— @—
Georgian. Autumn	20 @22		

taining a firm position with quite a fair amount of activity; although fine combing wools are said to be especially in demand just now, nevertheless it is stated the entire market reflects strength. There is no speculation reported as dealers say they cannot touch some of the prices quoted them for certain lines of fine wools. Pullers as usual are complaining of the high cost of their pelts, and insist they should get around 57 to 60c. for their wools in the grease, but this would place them on a level which dealers would find hard to realize now. Everytime a lot of wool is sold, the effort to replace it finds prices advanced. Wools are coming in fairly well, with heavier pelts as time goes on; however, stocks are not any too large. Among sales noted are B scoured at 64c.; fine scoured at 66c., with short fine scoured at 62c. In the grease B combing sold at 58c., with brushed combing at 56c., and choice brushed B at 54c.

NOILS HOLD FIRM

Noils are reported fairly active with interest shown in almost every grade, although fine and half-blood seem to be about the favorites. Contracts with spinners have been placed at extremely high prices; many dealers say they were unable to secure several lots because they merely bid on a basis of what they could sell the noils for now. Quarter-bloods run from 41 to 44c., although very choice noils might bring above this level; half-blood and fine are moving at 46 to 50c.

CARPET WOOLS HIGH

Carpet wools continue on a high basis with scattered activity covering almost every line of available wools. Dealers say their limited stocks prevent them from selling as much as they could under normal conditions, and dyes are also proving somewhat of a check in causing many mills to pursue a conservative policy. Prices abroad show increased strength and there is not much chance for lower levels in the opinion of those studying the situation, but rather for increased prices.

CHINA WOOLS SOLD

Attractive Prices on Capes—Market Firm and More Active

NEW YORK, Feb. 4.—Firmer prices and more activity are noteworthy characteristics of the local wool market. In common with the primary markets, prices have advanced a cent or two a pound on the finer wools while lower grades have maintained the strong position held for several weeks past. Heavy arrivals from the Far East and the Cape have increased stocks in dealers hands to a negligible extent as the bulk of these have been immediately transferred to the ownership of the mills, if indeed they were not already under contract.

ACTIVITY IN CAPES

Sales of fine Capes have assumed larger proportions than have been seen in this market in many months, contracts for considerable weights having been consummated by two or three houses. Sales include both scoured and grease wools together with a fair amount of snow whites, the latter at figures which appear to be particularly good value. The finer grades of these are not so plentiful but several lots of about three-eighths grade are on the market at 56 to 57c. a pound.

DEMAND FOR FINE SCOURED

Scoured territories in the medium and finer grades have been in more active demand than the lower sorts, the price advances seeming to have no restricting influence on sales. Evidently manufacturers are firmly of the opinion that there is to be no recession in prices for a long period and consider it the part of wisdom to accumulate a fair quantity of raw material at present prices rather than to take the risk of having to pay more a month or two hence. In certain quarters it was thought spinners were so well covered that a temporary lull might be expected, but nothing of the sort is yet in evidence nor is there any present indication of such an occurrence in the immediate future.

Mills specializing in cloakings and overcoatings have been in the market for low grade stocks, purchasing some of the top edge of the carpet stocks, Jorias and Chinas. These have not been any considerable factor in the week's trading, however. B supers are in rather light supply, especially scoured Bs of good style and color. The demand for these still continues active, so that there is no opportunity for an accumulation in the hands of puller or dealer.

CARPET MILLS BUY CHINAS

Carpet manufacturers have not been active operators in the local market for several weeks as many of them purchased large quantities abroad. Recently a few of the larger factors have been quietly picking up various lots the total aggregating well over 2,250,000 pounds. Conditions abroad would warrant the assumption that Chinas will prove to be a good purchase at present quotations. High freight rates, increased war risks on shipments via the Cape of Good Hope and the scarcity of bottoms in the oriental trade all combine to make spot Chinas valuable property. For many weeks there has been a persistent effort to bear the market, but dealers are unanimous in their opinion that no recession is in sight while there are good reasons for further advances.

To Sell Yarns

Joseph D. Swoyer has opened an office at 43 Letitia Street, Philadelphia, as a manufacturers' agent for woolen, worsted and merino yarns.

Water Wheel Co. Changes

John A. Bookwalter has been elected president of James Leffel & Co., Springfield, Ohio, manufacturers of water wheels, etc., to succeed his uncle, the late John W. Bookwalter. He has been vice-president and treasurer of the company for a number of years. Frank M. Bookwalter, who has been associated with the company for 48 years has retired and has been succeeded as a director by his son, John A. Bookwalter. In addition, A. F. Sparks, formerly secretary and general manager has become vice-president and general manager; B. F. Kaufman, cashier and purchasing agent, becomes treasurer, and A. L. Baylor, manager of the engine department has been made secretary.

To Make Dyes

Announcement is made that the Philadelphia Anilin & Extract Co. is negotiating with a large German dyestuff concern by which they will take over the selling organization maintained by this company in various cities throughout the country. This company has been organized for the purpose of manufacturing dyestuffs of a general character, essential oils and perfumes. They state they expect to be in a position to deliver colors in a short time, but they are not as yet making contracts. They will install a laboratory in Philadelphia which will be complete in every detail for their purposes. The main office is maintained at 364 Bourse Bldg., Philadelphia, with D. C. MacNeill in charge.

Philadelphia Wool Scouring and Carbonizing Co.
WOOL
Scoured and Carbonized
Freight Address: Coral St. Sta., P. & R. RR. Somerset and Tulip Sts., Phila., Pa.

EAVENSON & LEVERING
WOOL SCOURED — CARBONIZED COMBED AND STORED
Phila. and Reading Railroad Siding. CAMDEN, N. J.

FARNSWORTH, STEVENSON & CO.
WOOL MERCHANTS
WOOLS AND NOILS OF ALL DESCRIPTIONS BOUGHT AND SOLD ON COMMISSION
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1417 Main St. 1419 South St.
WHEELING, W. VA.

MAUGER & AVERY
Australian Lamb's Wool, Noils, Ring and Thread Wastes, Mohair, Carpet Wools
256-260 SUMMER ST., BOSTON

OELRICHS & CO.
WOOL IMPORTERS
AND COMMISSION MERCHANTS
Bowling Green Building
11 Broadway NEW YORK

RAW MATERIAL MARKETS (COTTON)—SPOT AND FUTURES

COTTON IS UNSETTLED BY SPOT UNCERTAINTIES

Declines in Larger Southern Spot Markets Accompanied by Reports of Nervousness

The cotton market has shown continued nervousness during the week, with prices making new low ground for the movement. May contracts in New York, for instance, sold at 11.90 on Wednesday morning, the lowest level touched since last November, and about $4.90 per bale under the high level reached during the early part of January. This decline has reflected continued liquidation and pressure from various sources doubtless encouraged by talk of an easier attitude among southern spot holders. Continued scarcity of ocean freight room and the failure of Liverpool to show any marked strength as a result of the difficulties of importation, have contributed to the bearishness of sentiment, while the unsettled ruling of the stock market and nervousness over international affairs have also been felt in some of the Wall Street and local selling. Offerings became smaller toward the close of the week, however, and prices showed moderate rallies on Thursday.

NEWS FROM SOUTH CONFUSING

As a matter of fact, news from the South has been more confusing than convincing with reference to the spot situation. Southern spot markets have worked lower; there has been a moderate business at the declines, but the trade has been left uncertain as to whether anything but hedged cotton has actually changed hands. Sales of hedged cotton can hardly be taken as reflecting the general situation, and bearish advices have dealt more largely with prospects than with immediate conditions. There have been numerous reports that holders were becoming uneasy; that offerings were likely to increase; and that there must be active spot liquidation with the nearer approach of new crop preparations. Weak spots have developed here and there, and scattered lots of cotton have come upon the market. These supplies, however, appeared to have been pretty well absorbed toward the end of the week, and after earlier declines, the Southern spot markets on Thursday were steady and unchangd. The easier markets have been those in the eastern belt, and the Southwest has been relatively steady. A local spot broker, for instance, reported that off-colored cotton in the Southwest which was offered on a basis with May contracts in New York a month ago, could not be bought for less than 25 points on May at the close on Thursday, while he also said that middling cotton, 1 1/16 inch staple, of good body and color, was held for 65 points on May, which would figure out about 12.77 at New England points.

FOREIGN HOLDERS OF COTTON

According to spot people in Alabama, much cotton in the interior is owned by English, German and Austrian interests, however, with few distressed holdings in evidence. Southern spot markets as officially reported have shown declines of from 10 to 37 points for the week. There were rumors of an easier freight situation on Thursday's rally. Exports for the week were larger than for some time past, and there seems to be quite a general feeling that any important improvement in ocean freights would probably stimulate both the demand for spots and prices. Otherwise the trade expects to see the market influenced by the attitude of spot holders as the season for farm work advances. Talk of overflows in the Mississippi Valley has attracted comparatively little attention. The following table will show Thursday's closing prices in the leading spot markets of the country with the usual comparisons:

Market.	Jan. 27.	Feb. 3.	Change.	Last year.	Sales.
Galveston	12.15	12.05	—.10	8½	1,363
New Orleans	11.88	11.56	—.32	8⅜	6,003
Mobile	11.50	11.25	—.25	8	900
Savannah	12.00	11¾	—¼	8¼	4,578
Norfolk	11.63	11.50	—.13	8⅛	5,773
New York	11.95	12.00	+.05	8.70	310
Augusta	11.75	11.38	—.37	8 3-8/16	5,410
Memphis	12.25	12.00	—.25	8	3,400
St. Louis	12⅜	12.00	—⅜	8	
Houston	12.10	12.00	—.10	8⅜	17,584

In addition to the quotations above, the following quotations for middling cotton and the differences on and off are given as compiled from the reports received by the New York Cotton Exchange late on Wednesday for various grades from four representative southern markets, and the averaged differences as compiled from the quotations of the 11 designated markets:

	Dallas.	Mem. phis.	Mont-gomery.	Au-gusta.	Aver-age.
White Grades.					
M. F.	1.00†	1.12†	1.00†	.75†	1.01†
S. G. M.	.75†	.62†	.75†	.63†	.71†
G. M.	.50†	.37†	.50†	.50†	.48†
S. M.	.25†	.12†	.25†	.25†	.23†
Middling	11.40	12.00	11.50	11.38	....
S. L. M.	.38*	.12*	.50*	.38*	.34*
L. M.	1.00*	.51*	1.00*	.75*	.81*
S. G. O.	1.75*	1.00*	1.50*	1.25*	1.35*
G. O.	2.50*	1.51*	1.88*	1.75*	1.91*
Yellow Tinged					
S. G. M.	....	....	.25†	.25†	.25†
G. M.	....	.12†	Even.	....	.04†
S. M.	.13*	.13*	.25*	Even.	.18*
Middling	.50*	.25*	.50*	.38*	.41*
S. L. M.	1.25*	.51*	1.00*	1.00*	.88*
L. M.	1.75*	.76*	1.50*	2.00*	1.39*
Blue Tinged					
Middling	1.00*	.50*	.75*	....	.69*
S. L. M.	1.50*	.76*	1.25*	....	1.09*
L. M.	2.00*	1.26*	1.75*	2.00*	1.60*
Stained					
Middling	1.00*	.38*	1.25*	1.25*	.95*

* Off. † On.

COTTON TRADE NOTES

According to advices received by the Department of Commerce, the third cotton forecast of 1915-16 for India, based on reports furnished by Provinces comprising the entire cotton area of India, gives as the area so far reported this year 17,390,000 acres, against 23,977,000 acres (revised figure) on this date last year. The total estimated yield is 3,687,000 bales of 400 lbs. each, against 4,993,000 bales (revised figure) on this date last year, or a decrease of 26 per cent.

Weil Brothers state that the State Agricultural Departments of Alabama and Georgia show hardly one-tenth the number of fertilizer tags sold this year as compared with one and two years ago.

W. P. G. Harding, of the Federal Reserve Board, has written to Chairman Lever, of the House Agricultural Committee, indorsing the proposed Federal warehouse law, which is to be pressed in the House. In the opinion of Mr. Harding, the proposed law will tend to make cotton stored at interior points available as collateral for loans without the intermediation of local banks, and will broaden materially the market for loans secured by warehouse receipts for cotton.

J. A. Stewart, cotton expert of the Census Bureau, estimates that 1,000,000 bales of cotton have been used in munitions manufacture in the United States and 2,000,000 bales in Europe during last year.

It is reported in the paper trade that during the last week or ten days leading powder manufacturers have purchased large quantities of rags, stating that they were cheaper than raw cotton.

A considerable quantity of cotton which had been shipped to New York for export to Europe is now, because of the scarcity of ocean room, being offered in the New England markets, mainly Fall River, at prices under southern quotations.

In the fertilizer trade it is stated that sales in both the North and South have picked up considerably recently. Reports from Southern territory state that the majority of brokers are of the opinion that the supply of raw materials may limit the production of mixed goods to 85 per cent. of last year's business.

According to Berlin newspapers, as quoted by Reuter's Amsterdam correspondent, a new order was put in force on Feb. 1, under which the greater part of all products of the textile industry are confiscated. Included in the list are all materials for clothing suitable for army or navy officials, all goods for undergarments, blankets, inclusive of horse cloths; colored linen goods, linings, and sail cloths.

STATISTICAL DATA

FLUCTUATIONS OF FUTURES.

Closed.—For week.—Closed

Option.	Jan. 28.	High.	Low.	Feb. 3.	Chge.
Feb.	11.89	11.88	11.71	11.83	—.06
March	11.99	12.12	11.70	11.93	—.06
April	12.10	12.10	11.93	12.03	—.07
May	12.21	12.23	11.90	12.12	—.09
June	12.27	12.24	12.05	12.19	—.08
July	12.34	12.36	12.04	12.26	—.08
Aug.	12.36	12.29	12.22	12.33	—.03
Sept.	12.32	12.24	12.09	12.26	—.06
Oct.	12.34	12.36	12.06	12.29	—.05
Nov.	12.41	12.38	12.23	12.35	—.06
Dec.	12.48	12.50	12.24	12.43	—.05
Jan.	12.43	12.34	12.44	....	....

SPOT FLUCTUATIONS FOR WEEK (MIDDLING).

	New York.	New Orleans.	Liver-pool.
Friday, Jan. 28	11.85c.	11.88c.	7.93d.
Saturday, Jan. 29	11.95c.	11.75c.	7.88d.
Monday, Jan. 31	11.80c.	11.75c.	7.82d.
Tuesday, Feb. 1	11.95c.	11.56c.	7.74d.
Wednesday, Feb. 2	11.90c.	11.56c.	7.66d.
Thursday, Feb. 3	12c.	11.56c.	7.79d.

SPOT QUOTATIONS AND STOCKS.

	Spot prices.	Stocks. This week.	Stocks. Last year.
New York	12c.	337,489	97,725
Galveston	12.05c.	353,615	570,292
New Orleans	11.56c.	440,020	433,976
Mobile	11.25c.	28,916	47,762
Savannah	11¾c.	221,017	346,994
Charleston	11⅝c.	85,581	158,168
Wilmington	11½c.	49,889	46,992
Norfolk	11.50c.	126,484	83,974
Baltimore	11⅝c.	6,270	4,903
Augusta	11.38c.	183,194	149,467
Memphis	12c.	241,821	234,785
St. Louis	12c.	16,828	39,259
Houston	12c.	211,654	223,861
Little Rock	12.12c.	37,873	64,862

COMPARATIVE CROP STATISTICS.

	1916.	1915.
Receipts for week	122,554	357,268
Exports for week:		
To Great Britain	144,249	211,425
To Continent	52,582	201,830
To France	731	18,617
To Japan	3,827	6,568
To Mexico	500	.....
Visible supply: U. S. and Europe	5,951,042	6,903,474
Receipts for season	4,968,011	6,818,679
Exports for season:		
To Great Britain	1,322,197	1,889,528
To Continent	929,484	1,654,724
To France	419,009	229,145
To Japan	201,217	282,828
To Mexico	16,502	26,508

Textile School Equipment

A Nasmith comber, specially imported from England for the textile department at the A. & M. College, Raleigh, N. C., has recently been installed. This department, which is the textile school for North Carolina, has also a full equipment of combing machinery from the Whitin Machine Works, Whitinsville, Mass. The addition of this Nasmith comber gives the above textile department a full complement of machinery for the production of fine yarns.

Carrier Steam Engineer

Herbert Coward, who for three years has been in charge of the Spiro Turbine Department of Buffalo Forge Co., and for four years previous engaged in sales and engineering work in connection with air conditioning apparatus, has been appointed steam engineer of the Carrier Engineering Corporation, and is now located at their main office, 39 Cortland Street, New York.

QUOTATIONS

Cotton Waste—Mill Run.
(See Note.)

	Per cent
No. 1 peeler comber	82⅛@85
Short peeler comber	—@77½
No. 1 Egyptian comber	—@75
Short Egyptian comber	—@72½
White card strip	—@70
No. 2 White card strip	—@40
	Cents.
Dirty card fly	2 @3
Dirty picker motes	1¼@2
Card and spinning sweeps	2½@3
Weave sweeps	2 @2½
Soft white threads	8 @8½
Hard white threads	7½@8
Soft colored threads	6½@7
Hard colored threads	5½@6

Cotton Waste—Graded Stock.
(See Note.)

	Per cent.
No. 1 Egyptian comber	85 @87½
No. 1 Egyptian strips	85 @90
No. 1 white peeler comber	87½@90
No. 1 white peeler strips	80 @85
No. 1 white card strips	70 @75
No. 2 white card strips	45 @65
No. 1 white spinners	90 @1 00
	Cents.
No. 1 soiled card	6½@7½
No. 1 oily card	5 @6
No. 2 oily card	3½@4½
No. 1 white willowed fly	6½@7½
No. 2 white willowed fly	5½@6
No. 1 cleaned white picker	6 @6½
No. 2 cleaned white picker	4½@5
Soft white threads	8 @9½
Hard white threads	8 @9
Soft colored threads	7½@8
Hard colored threads	6½@7½

Linters.

	f.o.b. N. Y.
Texas, clean mill run	—@6½
Texas A	—@7½
Eastern, clean mill run	—@6½
Staple linters	—@7½

NOTE.—*Percentages based on price of New York Middling Uplands spot cotton for day of shipment.*

WASTE TRADING FAIR

Demand Well Distributed at Firm Prices

BOSTON, Feb. 2—While cotton waste trading is not as excited as it was a few weeks ago there is a fair trading and a good volume of stock is moving. The bedding and mattress trade is largely covered for the present and no heavy demand is expected from this source until the spring, but on account of the almost complete absence of linters and the relatively small supply of low waste it is believed that considerable difficulty will be met in filling the demands of this trade when they begin buying for their spring needs.

Demand, while tending largely toward the medium and low grades, is more distributed than it has been for several weeks and there is a fair activity shown in the high grades, particularly strips and spinners, but combers are very dull. Several appreciable sales of colored spinners have been made recently at around 95 per cent., and of peeler strips at around 85 per cent. The scarcity of willowed fly and a continued demand have resulted in further advances and some recent sales have been made at as high as 8¼c. for the best stock. Threads continue in very active demand and small supply.

Print Cloth Market

FALL RIVER, MASS., Feb. 4.—Declarations of bids showing a sixteenth of a cent advance are reported by brokers who handle print cloths. The only reason given by manufacturers is that they are unwilling to bind themselves months ahead with the probability strong of better prices in the near future. General conditions are used as a foundation for producers' firmness. This week's demand has been for all kinds of cloth, with the preference for plains, twills and sateens. Delivery within three months at the farthest was the provision in many of the accepted orders, the aggregate of which is for 175,000 pieces as far as the reckoning has proceeded.

Quotations are as follows: 3¾ cents for 28-inch regulars; 3⅝ for 28-inch 64x60s; 3½ for 27-inch 64x60s; 3⅛ for 27-inch 56s; 5⅛ for 38½-inch 64s, and 5¾ for 39-inch 68x72s.

SUPPLY MARKETS—RAGS, SHODDY, ETC.

QUOTATIONS

Wool Waste.

Fine white Australian lap waste.	75	@78
Fine white lap waste	65	@70
Fine colored lap waste	60	@68
Medium colored lap waste	45	@50
Fine white Australian ring waste	68	@73
Fine white ring waste	60	@65
Fine white Australian thread waste	60	@65
Fine white thread waste	55	@60
Medium white thread waste	45	@50
Low white thread waste	35	@40
Fine colored thread waste	30	@35
Medium colored thread waste	25	@30
White spinners' waste, greasy	30	@35
Colored spinners' waste, greasy.	25	@30
Australian white cards waste, dusted	35	@40
Fine white card waste, dusted	30	@35
Medium white card waste, dusted	25	@30
Colored card waste, fine, clean	10	@15
Colored card waste, medium	5	@12

Carpet Ravelings.

No. 1 new old wool	—	@10
No. 2 old, light wool	7	@ 7½
No. 3 old, dark wool	5½	@ 6
No. 4 union	4	@ 4½
No. 5 cotton	2½	@ 3

New Woolen Rags.

Fine clip	—	@30
Ordinary clothing clips	25	@28

CLOTHING CLIPS.

Worsteds—		
Light	27	@45
Black	35	@45
Blue	40	@42
Dark	32	@33
Edges	35	@37
Cloth—		
Fine, light, black and white.	25	@26
Medium light	19	@20
Coarse light	18	@19
Black	23	@24
Oxford	23	@24
Blue	24	@25
Unions—		
Ordinary	9	@ 9½
Light	9	@ 9½
Government Clips—		
Soldier blue	24	@25
Indigo	24	@25
Khaki	35	@37
Cadets	28	@30

CLOAKING CLIPS.

Worsteds—		
Serges—		
White	39	@40
Blue	32	@33
Black	32	@33
Brown	32	@33
Red	32	@35
Green	32	@35
French Flannels—		
Very light	26	@28
Mixed	22	@24
Black	24	@26
Kersey—		
Tan	22	@24
Brown	23	@24
Red	23	@24
Green	23	@24
Blue	23	@24
Light blue	27	@28
Black	23	@24
Cloakings—		
Cotton warp mixed	6½	@ 7
Cotton warp gray	12	@15
Cotton warp mackinaws	7	@ 9
Brown	—	@10
Green	—	@10
Blue	—	@10
Oxford	—	@10

Old Woolen Rags.

Merinos—		
Fine light	25	@26
Coarse light	17	@18
Fine dark	23	@24
Coarse dark	16	@17
Fine black	23	@24
Small	7	@ 8
Serges—		
Light	19	@20
Brown	23	@24
Blue	18	@19
Black	22	@23
Red	23	@24
Green	23	@24
Flannels—		
Fine white	29	@30
Coarse white	29	@30
White No. 2	22	@23
Red	23	@24
Blue	16	@17
Knit—		
White	32	@33
Blue, dark	22	@23
Blue, light	22	@23
Blue, mixed	22	@23
Black, trimmed	25	@26
Black, untrimmed	23	@24
Red	25	@26
Brown	23	@24
Light gray	13	@14
Steel gray	24	@25
Dark	18	@19
Fancy	18	@19
Hoods—		
Light	24	@25
Delaines—		
Skirted	6	@ 7
Linseys—		
Red flannel	—	@ 6
Best plaids	—	@ 6
Best brown	—	@ 6
Best blue	—	@ 6
Common gray	2½	@ 3
Blankets—		
Wool, horse	6	@ 6½
New blue clips	25	@28
New black, fine worsteds	28	@30
Light yarn, extra fine	30	@35
Light yarn, worsted	33	@38
Dark mixed, extra fine and free from cotton and silk	26	@30
Dark mixed, No. 2	18	@22
Med. to coarse grades, all wool yarn	22	@25
Red flannel, all wool	22	@24
Red knit stock, strictly all wool.	25	@27
No. 1 dark blue for hosiery, strictly all wool	24	@25
No. 2, same, not all wool	17	@20
Fine dark merino, all wool, No. 1	17	@19
Med. dark merino, all wool, No. 2	16	@18
Med. dark merino, not extracted.	13	@14
Med. dark merino, all wool	15	@16
Fine light merino, all wool	28	@30
Fine black merino, all wool	18	@21
Medium light merino, all wool	23	@25
Med. light merinos, extracted	18	@20
Medium black	15	@20
To order: Olives, all wool, fine	20	@25
Blues, all wool	20	@25

SKIRTED CLOTHS.

Skirted Worsteds—		
Light	16	@17
Black	21	@22
Blue	16	@17
Dark	15	@16
Brown	16	@17
Skirted Cloth—		
Fine light	13	@14
Light	10½	@11
Blue	10	@11
Plain black	10	@11
Dark	9	@10
Skirted, tan kersey	18	@19
Skirted, tan covered	18	@19

Shoddies and Extracts.

Fine white yarn, best all wool	60	@65
Med. and coarse white yarn, all wool	42	@45
White knit stock, best fine all wool	42	@45
White knit stock, No. 2	38	@40
New Blue clips, best, fine worsted	40	@42

RAG MARKET SHOWS STILL GREATER ACTIVITY

Prices Steadily Advancing—Stocks at Record Low Point—New Interest in Fast Color Rags

The rag situation, instead of becoming more settled from week to week, develops greater complexities, and as a result neither dealer nor manufacturer is able to foresee with any accuracy what the morrow will bring forth. Greater activity is accompanied with a rise in price, quotations in reality being merely nominal and with no stability. Dealers are in the majority of instances disposing of their stocks at figures on a parity with or slightly lower than the cost of replacement, and are rapidly approaching the point where replacement of many grades is threatening to become a difficult problem. Present market conditions are not due entirely to exceptional demand in the recent past entirely, but are rather the result of a combination of causes such as is not at all likely to be seen again.

SCARCITY ABROAD

Similar conditions are prevalent in foreign markets; stocks are light and prices abnormally high with no present indication of a greatly increased supply from any source. During the week efforts have been made to secure lots for overseas shipment, the factors displaying a willingness to pay full market rates or even a fraction more if they could obtain the desired stock. Canadian operators have also been in the market attempting to pick up desirable lots of various grades but met with little encouragement. Prices are reaching materially higher levels from week to week, with a growing scarcity in supplies. Even when cutters-up become active in heavy weights it is not anticipated that the volume of clip coming forward will be of such magnitude as to affect prices adversely.

A few of the more conservative dealers freely admit that they have been over-cautious and have allowed many opportunities for making satisfactory profits to elude them because of their timidity. The value of past experience in the business, under present conditions has proved to be a negligible factor, invariably tending toward an attitude of undue conservation with a consequent restriction of purchasing.

FAST COLORS EXPENSIVE

Colored stocks in which fast dyes have been used are particularly desirable from the manufacturer's standpoint, and command relatively higher prices. Quotations on blacks and blues are at extremely high levels, a considerable advance having occurred within the last 10 days. Fast color soft stocks are also relatively high. Cutters-up are inclined to hold their rather slight accumulation of clips with a view to obtaining even higher prices than are now offered.

GOOD SUBSTITUTE TRADING

Prices Continue High and Demand Is Active

BOSTON, Feb. 2.—Practically all substitute dealers report good trading at top prices. Demand is very general in character, but with the bulk of it for medium and low grades; the relative scarcity of the latter, however, restricts the movement to a comparatively small aggregate. Colored stocks are in very active demand, particularly blues and blacks, and sell almost as fast as they come on the market. For the latter most dealers are obtaining premiums of a cent or two a pound.

Shoddy mills continue very busy, but practically all of the activity is confined to old orders. Very few shoddy manufacturers are now in a position to take much new business and only a few are willing to. The excited position of the rag market and the scarcity of the latter stocks place most shoddy manufacturers in a position where they are almost totally "at sea" regarding the future. What their actual costs will be they are unable to foretell, and unwilling to speculate, are refusing new orders unless covered. On this account shoddy prices are almost purely nominal and selling figures depend upon conditions peculiar to individual transactions.

Wool waste demand is well distributed, but tends more toward the medium and low grades. There is an active demand for colored stocks, almost regardless of price, but these stocks are particularly scarce and trading is confined to a narrow minimum. Thread waste, particularly soft colored woolen, is in good demand and prices have advanced radically from those current a month or so ago.

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No. 5948, Nubby White Silk Waste, garnetted, about 10 to 20 bags.
No. 5956, Yellow Silk Waste, 92 lbs.
No. 5946, Tan Colored Soft Silk Waste, about 1,000 lbs.
No. 5638, White Silk Waste, about 3,000 lbs., soft.
5632, Mixed Colors Garnetted Silk Waste, about 10,000 lbs.
No. 5633, Black Garnetted Silk Waste, about 5,000 lbs., short staple.
No. 5631, Dark Gray Mixed Colors, about 2,000 lbs.
No. 5885, Garnetted White Silk Threads, about 2/3,000 lbs.
No. 6083, Black Schappe Yarn Waste, about 400 lbs., containing 48's/2 ply and 60's/2 ply, skeins. These two numbers mixed in the bales. Samples upon request.
CHAS. W. BECKER, Commission Merchant, Amsterdam, N. Y.

FOR SALE.
About 40,000 lbs. Skirted Dark Blue Worsteds.
About 5/10,000 lbs. Skirted Black Worsteds.
About 20/25,000 lbs. Skirted Blue Cloth.
About 15/25,000 lbs. Skirted Black Cloth.
About 20,000 lbs. Skirted Light Worsteds.
About 20,000 lbs. Skirted Dark Worsteds.
About 5,000 lbs. Skirted Black Knit.
About 5 bales Skirted Blue Mix.
About 2,000 lbs. Coarse Dark Blue Knit.
About 5,000 lbs. Blue Knit.
Trade reports say these grades are advancing. Better get under cover.
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FOR SALE.
No. 3924 Jute Waste, new material, consisting of Pickered New Burlap Cuttings, carloads of 40,000 lbs., say 1 car each February 15th, March 15th, April 15th and May 15th. Suitable for spinning carpet yarns, coarse blankets, upholstering purposes. Not particularly cheap, but very desirable.
No. 5022, Sanitary Mattress Shoddy from new material, gray mix, carload weekly.
No. 1322, about 2 carloads monthly Sanitary Mattress Shoddy.
Both lots quite free from dust. Well suited for domestic or export trade. Latter number may be compressed to about 17¼ lbs. per cubic foot. Samples upon request.
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Furnished in the gray or dyed; organzines and trams; doubles and singles; on spools, cones or in the hank; on shuttles, bobbins, paper tubes, cones or warps; also ball warps.

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RAW SILK SCARCITY IS BOOSTING PRICE

Japan Gains Additional 25 to 30c. Per Pound Within Week—Milan Strong

The raw silk market is continuing the upward course, which factors in the trade believed had reached a high point last week. Advances of from 10 to 30c. have lately been made in the raw stock, and the persistence of the upward trend is changing the mind of the trade on what is likely to be the market's top. Many men who formerly believed that high-water mark had been reached, now look for $6 silk from Japan before long. The best grades from Italy touched that mark ten days ago. Such conditions as those at the present time have not been seen since 1907, and the market will not have to go much further to overtop the high-price records made then. At present levels the market is already above the high point for November.

There have been increases in nearly all grades of stock quoted on the Yokohama market of from 20 to 30c. per pound, which is additional to the 10c. advance all along the line reported in this column last week. Kansai Double Extra Cracks are now held at $5.50 against $5.30 last week, and Kansai Extra 13/15 are at $5.25 against $4.95 last week. Despite the new high level representatives of Japanese houses in New York state that the market is active and that the United States has been well represented in the buying. The Italian market is up 10c. per pound from last week which places Grand Extra Classicals at $6.10. Many manufacturers claim that this places the stock beyond their reach and as a result they are turning to the Japanese market for their supplies. The Canton market has also been affected by the general rising tendency and there have been advances of 10 and 15c. The market here is reported active and stocks diminishing. It is estimated that Canton exports for the season total 11,000 bales to Europe, and 21,000 to the United States, leaving about 4,000 still available for export.

The manufacturing outlook in the United States is reported unusually good. Not only are broad silks in demand, but ribbons have vastly improved and it is believed that the full capacity of the industry on this merchandise will be called for during the season. More silk than ever is going into hosiery, despite the high prices asked and raw silk dealers foresee an actual scarcity of the stock on this side which may prove an impediment to manufacturers in filling all the orders they have taken.

Below are prices current on raw stock:

European.

Grand Extra Classical Piedmont	6.10
Extra Classical Italian 12/14 to 12/18	5.90
Best classical Italian 13/15 to 24/26	5.60
Classical Italian	5.55

60 days basis.

Japan.

Filature Kansai Double Extra Crack	5.50
Filature Kansai Extra 13/15	5.25
Filature Shinshu Extra 13/15	5.20
Filature Best No. 1	5.10
Filature Kansai No. 1 13/15	5.05
Filature Shinshu No. 1 13/15	5.00
Rereels No. 1 13/16	5.20
Rereels No. 1½ 13/16	5.10
Rereels No. 1½ to 2	5.05

6 months basis.

China.

Canton XXA Crack 14/16	4.15
Canton XXB Ordinary 14/16	4.00
Canton XXB 22/26	3.85
Tsatlee Blue Dragon Flying Horse	4.10
Tsatlee Kunkee Mars No. 1	3.60
Tussah Filature 8 cocoons, No. 1-2	1.97½

6 months basis.

SPUN SILK

Since the advance of two weeks ago spun silk prices have been unchanged. The market has been most active, for these figures represent more and more attractive values as the raw silk market continues its upward course. The trade believes that further advances on spun silk will be forced if the raw stock goes any higher.

Current prices on spun silk are as follows:

60-2	3.90	30-2	3.55
50-2	3.80	20-2	3.35
40-2	3.70	10-2	3.25

ARTIFICIAL SILK

The tangled condition of the artificial silk market persists. Prices are largely what can be obtained for the yarn and there is no generally accepted quotations which actually represent the market level. It is understood that it is virtually impossible to secure any quantity of artificial silk on long future contracts. The prices quoted below are in a general way what is being asked and paid for the yarn.

150 Deniers English C, Bleached	3.05@3.30
150 Deniers English A, Bleached	3.25@3.50
150 Deniers English B, Bleached	3.15@3.40

SILK NOIL LENGTH DEFINED

May Be Imported Free Although Containing Some Long Noils

In sustaining the protest of Thomas Holmes of Boston, against classification of Tussah silk noils under paragraph 311 at 20c. a pound, General Appraiser Hay indicates that this part of the tariff act will be interpreted more liberally in the future than in the past; in fact, it may be possible to import short silk noils free of duty.

It was conceded that the merchandise in question would have been properly classifiable under paragraph 599 if under two inches in length, but under paragraph 311 if longer, the latter paragraph reading "silk and silk noils exceeding two inches in length." In his decision General Appraiser Hay says: "In the case at bar we think it is clearly shown that the commercial usage is to treat a bale of noils that does not contain an appreciable proportion of noils over 2 inches in length as if it did not contain any that were over 2 inches in length; but, aside from commercial usage, this occurs to us to be a rational interpretation of the provision. Unless every bale of silk noils that has in it any fibers that are more than 2 inches in length is to be classified under paragraph 311, it is difficult to draw the line anywhere except that the quantity must be so substantial as to characterize the entire bale. The merchandise in question was examined by the examiner of that character of merchandise in the appraiser's office at the port of Boston, and by him passed as free of duty as not exceeding 2 inches in length. Under a regulation of the department samples were sent to the appraiser's office at the port of New York, and while there is some little doubt from the testimony as to the identity of these samples we think it fairly shown that they finally reached two employes of that office whose business it is to analyze or examine merchandise of this general character. They examined the samples and found a very appreciable percentage of noils exceeding 2 inches in length.

"Out of these small samples one of the examiners drew ninety fibers and the other a hundred. Based upon this examination, we are asked to classify the 14,000 pounds of noils which constituted the shipment as noils of more than 2 inches in length; but opposed to the testimony of those two witnesses is the testimony of 10 witnesses who have been for many years engaged in the business where merchandise of like character is constantly before them and upon whose judgment commercial transactions are being daily conducted. These men had before them liberal samples from each bale and gave testimony which in no case showed more than 25 per cent. of noils over 2 inches in length, and averaged far less."

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Lane, W. T., & Bro.
Morris & Co.
Standard Fibre Co.

Beamers.
Crompton & Knowles Loom Works.

Beaming and Warping Machinery.
Altemus, J. K.
Crompton & Knowles Loom Works.
Draper Company.
Entwistle, T. C., Co.
Lever, Oswald, Co.
Smith & Furbush Machine Co.
Suter, Alfred.

Bearings.
——See Ball Bearings, Oil-less Bearings and Roller Bearings.

Belting.
Bond, Charles, Co.
Foulds & Son, Inc., J.
Gandy Belting Co.
Graton & Knight Mfg. Co.
Hood, R. H., Co.
Rhoads & Sons, J. E.
Schieren, Chas. A., Co.
Williams, I. B., & Sons.
——See also Mill Supplies.

Belting, Leather.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belting, Link.
Link-Belt Co.

Belt Cement.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belt Dressing.
Dixon Crucible Co.
Graton & Knight Mfg. Co.
Rhoads & Sons, J. E.
Schieren, Chas. A., Co.
Stephenson Mfg. Co.

Belt Lacers.
Clipper Belt Lacer Co.

Belt Lacing, Leather.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belt Tighteners.
Hunter, James, Machine Co.
Link-Belt Co.

Bindings.
——See Tapes and Braids.

Bleachers.
——See Dyers, Bleachers and Finishers.

Bleaching Kiers.
Butterworth, H. W., & Sons Co.
New England Tank & Tower Co.
Philadelphia Drying Machinery Co.
Stearns Lumber Co., A. T.
Textile-Finishing Machinery Co.

Bleaching Materials.
American Dyewood Co.
Arnold, Hoffman & Co.
Bosson & Lane.
Electric Smelting & Aluminum Co.
Electro Bleaching Gas Co.
International Pulp Co.
Malt Diastase Co.
Marden Orth & Hastings Co.
National Aniline & Chemical Co.
Seidner & Enequist.
Seydel Mfg. Co., The.
Winkler & Bro., Isaac.
Wolf, Jacques & Co.
Worden Chemical Works.

Blowers and Blower Systems.
Buffalo Forge Co.
Carrier Air Conditioning Co.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Boards (Winding).
Chaffee Bros. Co.
Pearson, Jas. T.
Richardson Bros.

Bobbin Holders.
Murdock & Geb. Co.
Roney & Rae.

Bobbins, Spools, Shuttles, Etc.
American Paper Bobbin Co.
Leigh & Butler.
Tebbets, E. L., Spool Co.

Bobbin Winders.
Altemus, J. K.
Lever, Oswald, Co.
Universal Winding Co.

Boilers.
——See Steam Boilers.

Boiler Cleaner.
Buckeye Boiler Skimmer Co.

Boxes, Box Shooks, Etc.
Diamond State Fibre Co.
Empire Manufacturing Co.
Pearson, J. T.
Standard Fibre Co.
Utility Manufacturing Co.

Box Shooks.
Chaffee Bros. Co.

Braiding Machinery.
New England Butt Co.
Textile Machine Works.

Braids.
——See Tapes, Braids and Edgings.

Brass Hinges.
Root, C. J., Co.

Bridges.
Scaife, W. B., & Sons.

Brushers.
——See Napping Machines.

Brushes.
Hardy, Frank H.
Mason Brush Works.
Parks & Woolson Machine Co.

Brushing Machines.
Curtis & Marble Mach. Co.
Parks & Woolson Machine Co.

Builders.
Ferguson Co., John W.

Burr Pickers.
Curtis & Marble Machine Co.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.

Button Sewing Machines.
Union Button Sewing Co.

Calico Printers' Machinery and Supplies.
Butterworth, H. W., & Sons Co.
Schwartz, L. H. A., & Co.
Taunton-New Bedford Copper Co.
Textile-Finishing Machinery Co.
——See also Dyeing, Drying, Bleaching, Machinery, etc.

Canvas Baskets.
Lane, W. T., & Bro.

Carbonizing Machinery.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Textile-Finishing Machinery Co.
Tolhurst Machine Works.

Card Clothing.
Ashworth Bros.
Atkinson, Haserick & Co.
Firth, William, Co.
Leigh & Butler.
Schwartz, L. H. A., & Co.

Card Feeds.
——See Automatic Feeds.

Card Grinding Machinery.
Atkinson, Haserick & Co.
Dronsfield Bros.
Entwistle, T. C., Co.
Firth, William, Co.
Fraser, Douglas & Sons, Ltd.
Leigh & Butler.
Smith & Furbush Machine Co.

Card Leather.
Graton & Knight Mfg. Co.

Carding Machinery.
Fraser, Douglas & Sons, Ltd.
Gordon-Hay Co.
Mason Machine Works.
Potter & Johnston Machine Co.
Saco-Lowell Shops.
Smith & Furbush Machine Co.
Tatham, William, Ltd.

Card Stampers and Repeaters.
Hodgson, Walter W.

Carpet Machinery.
Altemus, Jacob K.
Crompton & Knowles Loom Wks.
Curtis & Marble Machine Co.
Parks & Woolson Machine Co.
Philadelphia Drying Machy. Co.
Philadelphia Textile Machinery Co.
Smith & Furbush Machine Co.
Textile-Finishing Machinery Co.

Carrier Aprons.
Graton & Knight Mfg. Co.

Cases, Packing.
Chaffee Bros. Co.
Empire Mfg. Co.
Utility Mfg. Co.

Castings.
Fairbairn, Lawson, Combe, Barbour, Ltd.
Hunter, James, Machine Co.
Lunkenheimer Co., The.
Powell Co., Wm.
Royersford Foundry & Machine Co.
Schofield, Wm., Co.

Caustic Soda.
Marden, Orth & Hastings Company.
Wing & Evans.

Cement Pans.
Scaife, W. B., & Sons.

Centrifugal Filters.
Watson, Laidlaw & Co., Ltd..
Wayte, Inc., W. J.

Centrifugal Machines.
Schaum & Uhlinger, Inc.
Watson, Laidlaw & Co., Ltd.
Wayte, W. J., Inc.

Chain Belts.
American High Speed Chain Co.
Link-Belt Co.
Morse Chain Co.

Chains, Power Transmission.
Morse Chain Co. (Silent Driving).
Link Belt Co.

Chemists.
Little, Arthur D., Inc.
Lunkenheimer Co., The.
U. S. Conditioning & Testing Co.

Chenille Machinery.
Eppler, John, Machine Works.

Clocks, Hank.
Morton & Andrews.

Clocks, Watchman.
Newman Clock Co.
Pettes & Randall Co.

Cloth Boards.
Chaffee Bros. Co.
Pearson, J. T.
Richardson Brothers.
Textile-Finishing Machinery Co.

Cloth Cutting Machines.
Eastman Machine Co.
Firsching, J. A.
Firth, William, Co.
Oswego Machine Works.
Smith & Winchester Mfg. Co.

Cloth Doubling Machinery.
Curtis & Marble Machine Co.
Parks & Woolson Machine Co.

Cloth Dryers.
——See Drying Machinery.

Cloth Expanders.
Leyland, Thomas & Co.

Cloth Finishing Machinery.
——See Dyeing, Drying, Bleaching and Finishing.

Cloth Shrinking Machinery.
Reliance Machine Works.

Cloth Testers.
Firth, William.
Perkins, B. F., & Son, Inc.
Scott, H. L., & Co.
Suter, Alfred.

Cloth Winders.
Firsching, J. A.
Ireland Machine & Foundry Co.
Parks & Woolson Machine Co.

Clutches.
Hilliard Clutch & Mchy. Co.
Hunter, James, Machine Co.
Link-Belt Co.
Moore & White Co., The.

Coal.
Chesapeake & O. Coal & Coke Co.

Coal Analysis.
Little, A. D., Inc.

Coal Handling Machinery and Storage Systems.
Hunt Co., C. W.
Link-Belt Co.

Collars (Shaft).
Royersford Foundry & Machine Co.

Comb Aprons.
Foulds & Sons, Inc.
Graton & Knight Mfg. Co.

Combs (Wool and Cotton).
Atkinson, Haserick & Co.
Crompton & Knowles Loom Wks.
Entwistle, T. C., Co.
Hood, R. H., Company.
Leigh & Butler.

Commercial Vehicles.
Kelly-Springfield Motor Truck Co.
Kissel Motor Car Co.
Pierce Arrow Motor Car Co.

Commission Merchants and Selling Agents.
(Cotton Goods.)
Catlin & Co.
Converse, Stanton & Co.
Deering, Milliken & Co.
Dommerich & Co., L. F.
Mitchell Co., James E.
Schefer, Schramm & Vogel.
Sheridan & Co., G. K.
Stevens & Co., J. P.
Whitman Co., Inc., Wm.
Willis & Co., Grinnell.
(Knit Goods.)
Converse, Stanton & Co.
Schefer, Schramm & Vogel.
(Woolen and Worsted.)
Allen, Ethan.
Converse, Stanton & Co.
Deering, Milliken & Co.
Dommerich & Co., L. F.
Duval & Co., W. H.
King, Beals & Co.
Metcalf Bros. & Co.
Schefer, Schramm & Vogel.
Stevens & Co., J. P.
Stursberg, Schell & Co., W.
Whitman Co., Inc., Wm.

Compressors (Air).
Allis-Chalmers Mfg. Co.
General Electric Co.

Concrete Dressing.
Sonneborn, L., Sons, Inc.

Concrete Preserver.
Sonneborn, L., Sons, Inc.

Condensers.
Allis-Chalmers Mfg. Co.
Buffalo Steam Pump Co.
Dodge, C. S.

Conditioning and Testing.
U. S. Conditioning & Testing Co.

Conditioning Machines.
Parks & Woolson Machine Co.
Sargent's Sons Corp., C. G.

Cones (Paper).
American Paper Bobbin Co., Inc.
Fairpoint Corporation.

Construction.
Arnold Co., The.

Contractors.
Ferguson Co., John W.
Trussed Concrete Steel Co.

Conveying Systems.
Buffalo Forge Co.
Hetherington & Sons, J., Ltd.
Hunt Co., C. W., Inc.
Leigh & Butler.
Link-Belt Co.
Sturtevant, B. F., Co.

Conveyor Belting.
Gandy Belting Co.
Link-Belt Co.

Coolers (Air).
Carrier Engineering Co.
Power Specialty Co.

Cop Machinery.
Eppler, John, Machine Works.

Cop Spindles.
American Textile Specialty Co.

Cop Tubes.
Fairpoint Corporation.
——See Paper Tubes.

Copper Expansion Joints.
Badger, E. B., & Sons Co.

Copper Print Rollers.
Taunton-New Bedford Copper Co.

Coppersmiths.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile-Finishing Machinery Co.

Copper Work for Dyers.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile-Finishing Machinery Co.

Corduroy and Velvet Cutting Machines.
Firth, William, Co.

Corrugated Iron and Steel.
Scaife, W. B., & Sons.

Cotton.
Embury & Maury.
Indian Orchard Co.
Schwartz, L. H. A., & Co.
Weld & Co., Stephen M.

Cotton Waste.
Crefeld Waste & Batting Co.

Cotton Dryers.
——See Drying Machinery.

Cotton Machinery.
Ashworth Bros.
Atkinson, Haserick & Co.
Barber-Colman Co.
Butterworth, H. W., & Sons Co.
Cramer, Stuart W.
Crompton & Knowles Loom Wks.
Curtis & Marble Machine Co.
Dixon Lubricating Saddle Co.
Draper Company.
Easton & Burnham Machine Co.
Elliot & Hall.
Entwistle Co., T. C.
Fales & Jenks Machine Co.
Firth, William.
Hetherington & Sons.
Hunter Machine Co.
Klauder-Weldon Dyeing Mach Co.
Leigh & Butler.
Lever Co., Inc., Oswald.
Mason Machine Works.
Metallic Drawing Roll Co., The.
Parks & Woolson Machine Co.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Potter & Johnston Machine Co.
Saco-Lowell Shops.
Sargent's Sons Corp., C. G.
Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Stafford Co., The.
Tatham, William, Ltd.
Textile-Finishing Machinery Co.
Textile Machinery Co.
Universal Winding Co.
Whitinsville Spinning Ring Co.
Wildman Mfg. Co.
Woonsocket Mach. & Press Co.

Cotton Openers and Lappers.
Atkinson, Haserick & Co.
Firth, William, Co.
Hetherington, John & Sons, Ltd.
Leigh & Butler.
Potter & Johnston Mach. Co.
Saco-Lowell Shops.

Cotton Softeners.
Bosson & Lane.
Harding & Fancourt, Inc.
Seydel Mfg. Co., The.
Wolf, Jacques & Co.

Cotton Waste Machinery.
Firth, William, Co.
Saco-Lowell Shops.
Smith & Furbush Mach. Co.
Tatham, William, Ltd.